DOCUMENT RESUME

ED 076 456 SO 005 580

TITLE	Educational Policy and Planning. France.
INSTITUTION	Organisation for Economic Cooperation and Development, Paris (France). Directorate for Scientific Affairs.
PUB DATE	72
NOTE	659p.
AVAILABLE FROM	Director of Information, O.E.C.D., 2, rue Andre-Pascal, 75775 PARIS CEDEX 16, France ($10.00)
EDRS PRICE	MF-$0.65 HC-$23.03
DESCRIPTORS	Administrative Organization; *Comparative Education; Curriculum Development; Developed Nations; *Educational Development; *Educational Planning; *Educational Policy; Educational Programs; Educational Research; Educational Resources; *Educational Status Comparison; Educational Trends; Instructional Staff; Summative Evaluation; Surveys

ABSTRACT

This report concerning the policy and planning of education in France is a description of the quantitative and qualitative aspects of the development of education in an endeavor to show how each aspect influences the other. Book I of the report recalls the importance of the educational explosion of the last fifteen years and examines the budgetary outlay, summarizing the policy of mobilization of resources for education and the output of the educational system. The structure and content of the educational system and modifications currently being made in educational philosophy are detailed in Book II. Book III describes and analyzes educational planning, dwelling on the main techniques and methods of implementation. Annexes to each book include related supplemental information needed for better understanding of techniques and problems. (Author/SHM)

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EDUCATIONAL POLICY AND PLANNING

FRANCE

DIRECTORATE FOR SCIENTIFIC AFFAIRS
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

PARIS 1972

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TABLE OF CONTENTS

General Introduction 7

BOOK I

Quantitative Growth of the Education System and its Effects

Introduction — Outline of the structure of the education system and its reform, and quantitative trends in enrolments 10

Part One: Budgetary Outlay: Trends in the Budget of the Ministry of Education from 1952 to 1968 25

Introduction 25

Chapter I — The budget of the Ministry of Education: An analysis of its development 35

II — Capital expenditure by the Ministry of Education . . . 47

III — Ordinary expenditure of the Ministry of Education since 1952 65

Part Two: Output and Democratisation of the Education System 105

Chapter I — Output of the education system 107

II — Progress of studies according to pupils' social origins. 125

III — Regional disparities in enrolment rates 149

IV — Unsatisfied manpower requirements 159

Conclusion: Various innovations and problems raised by their integration 165

BOOK II

Structure and Content of the Education System

Introduction 171

Part One: Structures

Title 1: The period of compulsory schooling 175

Introduction: I The raising of the school-leaving age 175

II Pre-primary education 177

III Structure and organisation of nursery schooling . 178

IV The role of pre-primary education in the general school system 179

Chapter I Primary education 181

II The first cycle of secondary education and its evolution 185

III Education for handicapped children 199

Title 2: Non-compulsory education 207

Chapter I The second cycle of secondary education 209

II Higher education 229

III Education not organised by the Ministry of Education 283

IV Continuing education and social advancement 293

V Greater flexibility of structure 303

Part Two: Changes in Curricula and Educational Content

Title 1: Compulsory education 313

Chapter I Primary education 315

II First cycle of secondary education 327

Title 2: Non-compulsory education 337

Chapter I Second cycle of secondary education 339

II Higher education 349

Title 3: Renovation of the spirit of education 369

Chapter I Observation and guidance 371

II Reform of teaching methods 389

III Participation 395

Conclusion: Reform philosophy 411

BOOK III

Educational Planning in France

Introduction: I Characteristics and development of educational planning in France 419

II Educational research in France 421

Part One: Forecasting School and University Enrolments: Evaluation of the Various Methods 427

Chapter I Methods of enrolment forecasting and their development 431

II Comparative trend of forecasts and actual enrolments - attempt to explain the disparities from 1956-57 to 1967-68 439

III Implementation of the plans for handicapped children 455

IV Gradual introduction of manpower requirements into enrolment forecasts 463

Part Two: Investments and their Implementation 471

Chapter I Determination of the volume of investments 473

II Improvement of implementations 487

III The geographical implementation: regional planning of education and the school map 499

Part Three: Teaching Personnel 515

Chapter I Teaching personnel and educational planning 517

II Teacher Training 553

Conclusion 559

Final Comments 565

ANNEXES

Annexes to Book I

I Sharing of the Burdens of Financing between the State and Local Authorities 567
II The Procedure for Drawing Up the Budget of the Ministry of Education 577
III The Various Forms of Aid to Pupils and Students 581
IV The Education Grant 623

Annexes to Book II

V Educational Organisation of the Nursery Schools 627
VI Organisation of the Former Certificates (Brevets d'enseignement) 631
VII Organisation of Higher Humanities and Science Studies before 1966 633
VIII Description of Medical Studies (Medicine, Pharmacy, Dentistry) before the 1958 Reform 637
IX Additional Information on the Reform of Medical Studies, Administrative Problems and Functioning of Research Structures 641
X Reorganisation of Medical Studies: Initial Decisions and Broad Outlines for Future Reforms 645
XI Classification of Educational Establishments according to the Authority to which they are attached 649
XII Timetables in operation in the Different Sections of the First Cycle of Secondary Education 653
XIII Timetables in operation in the Different Sections of the "Long" Second Cycle of Secondary Education and Diagrams showing the Structure of Technical Education 661
XIV Timetables for the "Short" Second Cycle of Secondary Education 667
XV Administration of the State Education System before 1968 671

Annexes to Book III

XVI Outline of Administrative Channels through which Projects for Financing School and University Establishments must Pass 683
XVII Chronological Table for the Various Reforms in Education by Type, in Guidance, and in Teacher Training 687

PREFACE

Under the programme of the OECD Committee for Scientific and Technical Personnel(1) for reviewing national educational policies, an extensive survey has been devoted to the French education system(2).

For the purposes of this survey a basic report concerning the policy and planning of education in France has been prepared in order to inform the group of examiners and the members of the Committee of recent developments in the French education system. A document of this nature was particularly necessary in view of the fact that the French education system, like that of other Member countries, has had to make far-reaching changes in its development and procedure in the last ten years.

The advantage of this report is that it has assembled a body of information and analytical studies whose scattered nature is often a material obstacle to the preparation of a coherent policy and a coherent planning programme. The objective of the report is to describe the quantitative and qualitative aspects of the development of education and to endeavour to show how each aspect influences the other.

This text has been prepared by the OECD Secretariat. Throughout its preparation the appropriate French authorities have supplied the authors with the necessary material and have been unsparing in their advice as to the content of its various sections. The co-ordination of the text was entrusted to Mr. P. Laderrière. Book I benefited from the co-operation of Mlle. Y. Sallé (the budgetary outlay), Mme. M. Solliliage (output of the education system and the influence of social origin on educational courses), Mr. R. Quenum (regional disparities) and Mme. H. Bureau (manpower requirements) who was also responsible for the preparation of Books II and III (assisted in Book III by Mr. F. Mendès-Gil for the chapters on educational research).

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1) Replaced since July 1970 by the Education Committee.

2) Reviews of National Policies for Education - France, OECD, Paris, 1971.

GENERAL INTRODUCTION

Over a period of some fifteen years, the French education system has absorbed an increasingly large proportion of national resources in order to meet the growing demand for education which has been observed successively or simultaneously at the various levels of the system. The effect of this pressure in quantitative terms, whether it be ascribed to demographic phenomena and/or to individual demand, has gradually forced the various levels and types of education away from their original objectives in an attempt to accommodate the mass of new students seeking admission to educational establishments and universities. This trend has had repercussions on the output of the education system. For society, which is faced with the increasing resources made available to education, as well as for the individual, the negative aspects of this trend have gradually brought about a recognition of the need to revise the functions of education and, as a result, the aims, structures and content of the different types of education.

Nevertheless, any change in a system of education depends to a great extent on the system itself which, in turn, has been shaped by previous change. Since 1959, the French authorities have begun to reform the education system at various levels. Although factors outside the school (in the narrow sense) may have contributed to setting off the crisis which shook French education in May-June 1968, the foundation of the education system has, in the last analysis, been seriously questioned. This sudden bringing to light in a more systematic way of the lack of adaptation of French education to the contemporary world and to changes in terms of democratisation has accelerated, in some fields, the movement towards reform that had already begun.

The French experience of fitting educational planning into a broader middle-term plan for economic and social development has, from the outset, aroused the interest of authorities of OECD Member countries having more and more to face common problems in the educational field.

As the education system developed, the planning mechanism was called upon to play an increasingly important role in order to satisfy the educational needs of individuals and society and to optimise the use of the increasing amount of national resources being required for educational development.

The structural context in which the planning mechanism was applied had repercussions on the latter, and only very recently has the content of educational planning been modified in order to respond more effectively to the new objectives of the education system.

This background report, prepared by the OECD Secretariat in close collaboration with the French authorities on the occasion of the examination of French educational policy, aims to inform the members of the Committee for Scientific and Technical Personnel and the Group of Examiners, as well as those in France and in the other Member countries of OECD who are interested in the development of the French education system in its economic and social context. It is proposed therefore, on the one hand, to give a detailed description of the most recent measures which, despite their importance, are little known in Member countries and, on the other, to analyse some of the fundamental mechanisms on which the education system operates. Whatever the characteristics of the French system, specialists will find in the course of this study the major problems which are arising at the moment in the majority of Member countries in the educational field.

Furthermore, the outline being followed takes account of the manner in which the various phenomena, summarised above, have been experienced by the responsible French authorities. Book I of the report recalls the importance of the "educational explosion" of the last fifteen years and goes on to examine the budgetary outlay, summarising the policy of mobilisation of resources for education and the output of the education system. The results of the operation of the system are dealt with not only in terms of overall output but also by examining the relationships between growth in enrolments, educational output, social background of students and satisfaction of the requirements for qualified manpower.

Modifications in structure and content have been made at the various levels of the system in order to make it more efficient and adaptable to the modern world. A reform of the very notion of education has begun. Book II of the report will be devoted to these various points.

Finally, Book III will describe and analyse educational planning, dwelling on the main techniques and methods of implementation. In this way we can study, in particular, all that concerns the forecasts and achievements in enrolments, investments and in teaching staff.

So as not to burden the text a number of developments, necessary for a deeper understanding of certain techniques and problems, have been placed in annex. While not claiming to cover all the problems of French education, this report attempts, within the scope of the work of the Organisation, to place the trends recorded in the wider context of economic and social developments in French society.

BOOK I

QUANTITATIVE GROWTH OF THE EDUCATION SYSTEM AND ITS EFFECTS

For fifteen years the French system of education has undergone a considerable quantitative growth. Its dimensions were so large and its rate so rapid that, leaving aside any question of reform, public authorities had to agree to a very large financial outlay in order to educate all children up to the compulsory school age and to develop sufficiently the intake capacity of the system beyond this level. Part One will be devoted to an examination of this financial outlay. Because the authorities responsible lacked the time, were not far enough removed to have an overall perspective and therefore took expeditious measures, the reforms which were introduced could be done so only later when growth was at its maximum. Moreover, these reforms proved to be only partial and poorly co-ordinated, with the result that the education system became in some way unbalanced because the necessary change from education for the elite to mass education was not sufficiently foreseen and directed.

As a result, the education system yields a low output at all levels, both within the education system itself and outside, where manpower needs are not satisfied. Part Two deals with this subject. Before giving in the introduction the essential characteristics of the quantitative growth in student numbers, an outline of the structure of the education system and its reform has been given in order to help the reader understand subsequent developments.

INTRODUCTION

OUTLINE OF THE STRUCTURE OF THE EDUCATION SYSTEM AND ITS REFORM, AND QUANTITATIVE TRENDS IN ENROLMENTS

What has been called the "explosion" in student numbers at all levels inevitably had as a result a basic reform of the education system. This change in itself stimulated, as a repercussion, an individual demand for education at the highest levels of the sytem. It is therefore advisable to outline the structures in which this growth took place.

A) Evolution of the Structure of the Education System

Before the 1959 reform, secondary education was characterised by a vertical structure beginning at the age of eleven (classe de 6ème). It was at that time that one was placed, once and for all, in a particular stream of education, whether terminal primary, short secondary or long secondary. Long secondary education was characterised by very great emphasis on the humanities and very abstract methods of work. Technical education was introduced with difficulty into long secondary.

As for higher education, it presented the very important dichotomy between the Faculties and the Grandes Ecoles. University education also had a vertical structure where methods of work remained very traditional.

Education, so defined, was not satisfactory to the large part of the population. Reform was necessary.

The first decision in the direction of necessary change was taken as early as 1959: the Decree of 6th January extended the compulsory period of schooling from eight to ten years, effective from 1967. This measure was taken for social and political reasons, but unfortunately too abstractly, i.e. without an overall assessment of the effects of such a decision on the entire education system. This Decree meant that theoretically all children in the 11 - 15 year age group would have at least four years of secondary education. As the various effects of the 1959 text were realised, modifications were introduced into the system, appearing thereby to be more or less a consequence of the initial decision.

In fact the premises for reform of the first cycle of secondary education were already included in the extension of compulsory schooling, and this gave rise to a kind of common - though differentiated - stream intended to fulfil certain educational functions described below. Reform of the first cycle meant that short technical schooling had to be reviewed and redefined in terms of its nature and educational function.

Although higher education remained outside the scope of compulsory schooling, the same kind of reasoning lay behind its reform. It was given greater diversity through the creation of University Institutes of Technology (Instituts universitaires de technologie - IUT) and reorganised in successive cycles. This series of reforms inevitably had repercussions on the second cycle of secondary education, which was reorganised in its turn.

Overall coherence is ensured, on the one hand, by the Act on vocational training (guidance and curricula) of 3rd December, 1966, which provides for its articulation with general education and, on the other hand, by the guidance machinery recently set up.

The effects of these reforms are described below and set out graphically in Diagram I.

1) Structural Reform of Secondary Education and its Effects

a) First cycle

In 1964/65, after completing the second year intermediate course (fifth and final year of primary schooling), pupils continued as follows(1):

32.6 per cent = 634,500:	in terminal classes of primary schools (mainly in rural areas and lower social classes in towns).
36.2 per cent = 704,700:	in schools of general education (Collèges d'enseignement général - CEG) where a short modern education (secondary level given by teachers coming directly or indirectly from primary education) was provided mainly for pupils from modest social backgrounds.
31.2 per cent = 607,550:	in lycées where pupils went on to prepare the Baccalauréat.
100 per cent = 1,946,750	

But raising the school-leaving age, which was in fact the legalisation of a voluntary extension for the majority of the population, meant that the terminal classes which no longer met the educational standards of secondary schooling had to disappear. Furthermore, the distinction between short (CEG) and long (lycées) secondary schooling gave rise to considerable inequalities owing to the premature choice it entailed and the fact that this choice too often depended on the geographical distribution of schools and the socio-occupational category of the parents.

The new structures set up by the Decrees of 6th January, 1959, 14th June, 1962, 3rd August, 1963, and the circulars and instructions of 3rd May, 1963, 28th September, 1963, and 5th January, 1965, instituted a common system of first cycle secondary education comprising three or four sections providing diversified curricula taught by specialised teachers. Continuous observation and guidance regulate the pupils' progress in these schools.

b) Short second cycle

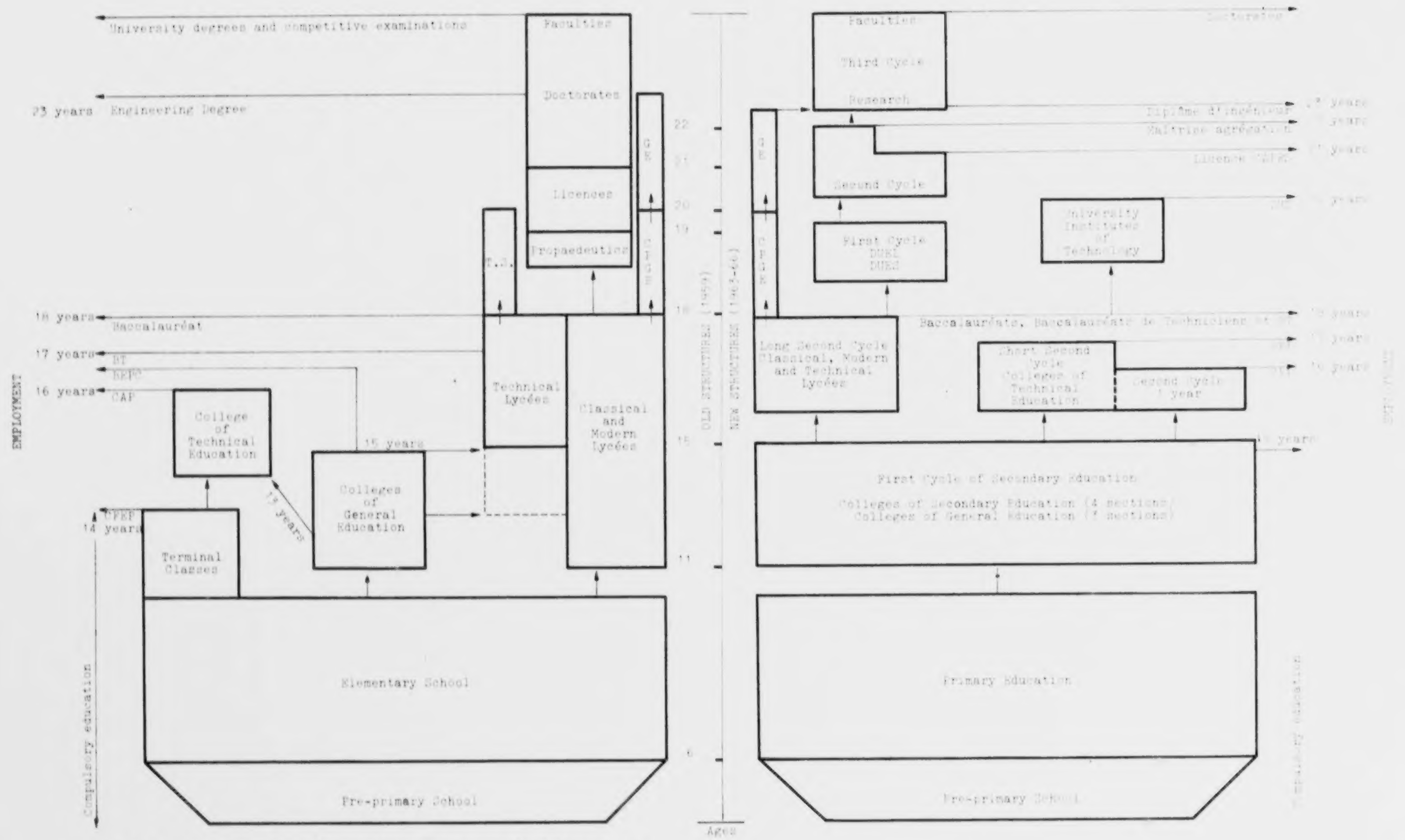
The old short technical education - with a bias towards industry - provided a three-year course (at the level of the fourth, third and second forms of the lycée, age 13 - 16) preparing pupils for specific occupations.

---

1) Source: Rapport général de la Commission de l'équipement scolaire, universitaire et sportif pour le Vème Plan.

DIAGRAM I

EFFECTS OF THE REFORM ON THE EDUCATIONAL STRUCTURE


University degrees and competitive examinations
23 years Engineering Degree
18 years Baccalauréat
17 years BT
BEPC
16 years CAP
CFEP
14 years
EMPLOYMENT
Compulsory education
Faculties
Doctorates
Licences
Propaedeutics
T.S.
G E
C P G E
Technical Lycées
Classical and Modern Lycées
College of Technical Education
Colleges of General Education
15 years
13 years
Terminal Classes
Elementary School
Pre-primary School
22
21
20
19
18
15
11
6
OLD STRUCTURES (1959)
NEW STRUCTURES (1963-66)
Ages
Faculties
Third Cycle
Research
Second Cycle
First Cycle DUEL DUES
Long Second Cycle Classical, Modern and Technical Lycées
University Institutes of Technology
Short Second Cycle Colleges of Technical Education
Second Cycle 1 year
First Cycle of Secondary Education
Colleges of Secondary Education (4 sections)
Colleges of General Education (2 sections)
Primary Education
Pre-primary School
Doctorates
Diplôme d'ingénieur
Maîtrise agrégation
Licence CAPES
DUT
Baccalauréats, Baccalauréats de Techniciens et BT
years

N.B. A translation of the abbreviations is given on the following page.

EXPLANATORY NOTES

BEP:	Brevet d'enseignement professionnel
BEPC:	Brevet d'enseignement de premier cycle
BT:	Brevet de technicien
CAP:	Certificat d'aptitude professionnelle
CFEP:	Certificat de fin d'études primaires
CFP:	Certificat de formation professionnelle
CPGE:	Classes préparatoires aux Grandes Ecoles
DUEL:	Diplôme universitaire d'études littéraires
DUES:	Diplôme universitaire d'études scientifiques
DUT:	Diplôme universitaire de technologie
GE:	Grandes Ecoles
TS:	Techniciens supérieurs

In view of the need for more highly skilled manpower, the new short second cycle will henceforth provide more diversified training over a two-year period (second and first form lycée level) giving direct access to a group of occupations calling for similar technical qualifications. Parallel with this, training is provided for occupations in the services sector and agriculture. A certificate is awarded on successful completion of these studies: the Brevet d'enseignement professionnel (BEP). The former Certificats d'aptitude professionnelle (CAP) are reserved for apprenticeships and vocational training courses leading to qualifications for specific jobs.

In addition, a more specialised and shorter (one year) vocational training course has been introduced leading to a Certificat d'études professionnelles (CEP).

2) Structural Reform of Higher Education and its Effects

a) Higher education

The keynote of this reform is diversification and restructuring in cycles.

Higher education now has three main branches: the Faculties, Grandes Ecoles and University Institutes of Technology (IUT)(1); the last were set up by Decree of 7th January, 1966. They are to provide a two-year course of training for executives and higher technicians in industry and the services, who will be responsible for putting formal knowledge and theoretical research results to practical use. These graduates should therefore have a more specific and more thorough practical technical training than engineers and a broader overall training than technicians.

Education in the faculties of humanities and science has been reorganised into three successive cycles: general preparation, specialisation, research. Furthermore, except in the case of law, economics and medicine, a certain comparability of levels has been established between the University Institutes of Technology, the first cycle in the faculties and the Grandes Ecoles preparatory classes, making it possible to set up and develop facilities for students to switch from one type of training to another.

b) Second cycle of secondary education

With these reforms, higher education became more exacting and called for reform of the second cycle of long secondary education (Decree of 10th June, 1965) which begins at the end of the third form (the second important stage of guidance for pupils about 15 years old) and also for changes in the Baccalauréat examinations in line with the changes in higher education. The guidance machinery and gradual differentiation of sections - which lead to five types of Baccalauréats corresponding to five forms of education - steer pupils towards one or other type of higher education:

- literature and languages: A
- economics and social sciences: B
- mathematical and physical sciences: C
- natural sciences and applied mathematics: D
- technical and scientific studies: E

---

1) IUT: A new type of institute for higher technical training, replacing the former types of advanced training for technicians which were extensions of technical secondary education.

Finally, long technical secondary education has been reorganised in its turn. Technical Baccalauréats have been introduced and will gradually replace the former Brevets de techniciens which will however be retained for certain narrowly specialised studies. In keeping with the principles underlying the reform of technical education, training for the new technical Baccalauréats will be more broadly based than before. Subject to certain conditions, and after consideration of their school record following an interview, students holding these Baccalauréats may have access to certain types of higher education, particularly the University Institutes of Technology.

It is in this general context that it is advisable to examine the trends in enrolments by type of education.

B) Trend in Enrolments by type of Education

A straightforward study of the growth of enrolments since 1950 may offer a first idea for the major questions with which the French authorities were confronted. The statistical data reflect not only the population changes and the higher social demand for education, but the actual consequences of the steps taken by the responsible authorities in reply. During the 18 years from 1950 to 1967, enrolments at all levels (in state and private education) rose from about 6,234,000 to 11,660,000 - an index figure of 187 (1950 = 100). The absolute figures available (Tables 1 - 4) will in general enable the years from 1950 to 1968 to be studied.

Table 5 summarises the main data, and yields the most significant figures at all levels except higher education.

1) Primary education

The index figure for pre-school education rose from 100 to 181 in 19 years. But between 1950 and 1960, enrolments increased by only a little over one-fifth (in 11 years), while during the nine years from 1960 to 1968 they went up by half. Enrolments in primary and special education went up by nearly 50 per cent between 1950 and 1960, but thenceforth declined steadily, particularly after the abolition of the primary terminal classes. These overall figures conceal the advance of special education(1).

2) Secondary education

"Shorter" secondary education (a four-year course, following five years' primary education), which was formerly the responsibility of the Department of Primary Education, and intended for pupils of modest origins, expanded faster than any other type of education between 1950 and 1963 (enrolments rose by 3½ times). The numbers are found to have risen by 2½ times between 1950 and 1960, and to have doubled between 1955 and 1960. The consequences can be measured by the dwindling part played by the lycées in lower secondary education.

In 1960, 51.6 per cent of the pupils at this level took the lower secondary cycle in the state lycées; the rest enrolled for the shorter modern secondary course. In 1963, when the institution of independent schools for the first cycle was imminent, only 44 per cent of the pupils at this level enrolled in the state lycées(2).

---

1) Graph I shows in greater detail the development of the various types of education (state only) at this level.

2) Source: Informations statistiques Nos. 70-71, May-June 1965 (Service central des statistiques et de la conjoncture - Ministry of Education).

TABLE 1

Enrolments in primary and secondary schools (1950 - 1968) (state and private)

(in thousands)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968 (1)
Pre-school																			
State	914	1022	1015	1022	1075	1074	1087	1109	1104	1109	1178	1225	1310	1359	1436	1507	1600	1688	1731
Private	213	221	226	218	215	215	211	210	202	193	196	208	226	239	256	271	285	302	312
Total	1127	1243	1241	1240	1290	1289	1298	1319	1306	1302	1374	1433	1536	1598	1692	1778	1885	1990	2043
Primary, special																			
State	3271	3318	3532	3782	4007	4263	4490	4643	4815	4968	4964	4952	4974	4910	4872	4826	4777	4732	4616
Private	779	801	838	858	895	937	968	976	972	963	941	917	892	860	842	823	798	764	737
Total	4050	4119	4370	4640	4902	5200	5458	5619	5787	5931	5905	5869	5866	5770	5714	5649	5575	5496	5353
Shorter Secondary education (up to 1964), then first cycle(2)																			
State	206	218	228	240	257	280	303	352	410	474	549	628	715	775	855	963	1048	1204	1440
Private	60	61	61	69	74	78	84	93	104	120	133	141	149	159	170	183	194	204	207
Total	266	279	289	309	331	358	387	445	514	594	682	769	864	934	1025	1146	1242	1408	1647
Technical colleges																			
State	140	140	145	150	151	152	152	159	171	182	201	218	252	279	308	334	341	381	422
Private	56	63	70	77	85	94	81	90	97	107	107	138	178	178	186	196	194	226	187
Total	(196)	(203)	(215)	(227)	236	246	233	249	268	289	308	356	430	457	494	530	535	607	(3) 609
Classes and modern lycées																			
Technical lycées																			
State	422	447	466	496	531	66	614	694	765	843	902	987	1068	1127	1145	1140	1129	1119	1120
Private	(209)	(218)	(225)	(232)	(246)	257	268	286	308	329	349	377	394	397	402	420	436	446	454
Total	(631)	(665)	(691)	(728)	(777)	823	882	980	1073	1172	1251	1364	1462	1524	1547	1560	1565	1565	1574
Teacher training colleges(4)	(15)	16	(16)	17	16	17	20	23	24	25	28	28	29	29	31	32	32	(33)	(33)

Sources: Statistical Yearbook of France, retrospective summary 1966 (Institut national de la statistique et des études économiques).
Statistical Information; Brief Information Notes Nos. 17 and 18 (1968); Information Note 1969 (Service central des statistiques et de la conjoncture).
All of these sources are official apart from the figures between brackets, which are estimates made by the OECD Secretariat.

Notes:
1) All of the figures given for this year are provisional.
2) "Cours complémentaires" (continuation courses), later called "Collèges d'enseignement général" (as from 1959) and as from 1964 first independent cycle or "Collèges d'enseignement secondaire" and "Collèges d'enseignement général".
3) The fall observed between 1967 and 1968 is certainly due to the exclusion of domestic science pupils from the figures for 1968 (about 25,000 in 1966).
4) These figures include enrolments in all classes (preparation for the Baccalauréat + professional training).

TABLE 2

Student enrolments in higher education: University (state)(1)

from 1945 to 1968

(in thousands)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955 (2)	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
University education																								
Law	30	42	40	39	38	39	39	39	41	41	35	36	34	33	32	34	38	45	54	65	77	88	103	-
Science	18	23	23	23	24	25	27	28	31	32	38	44	53	60	66	68	75	89	100	110	121	125	131	-
Humanities	22	29	31	33	34	35	36	37	39	40	42	48	50	54	57	62	73	89	103	119	133	152	165	-
Medicine	19	21	25	26	27	29	30	30	29	30	29	30	30	31	31	31	36	38	40	43	48	52	61	-
Pharmacy	8	9	9	9	7	7	7	7	7	8	8	8	8	8	8	9	9	10	11	12	14	15	68	-
Total University(3)	97	124	128	130	130	135	139	141	147	151	152	165	176	186	195	203	233	271	308	349	394	433	478	532

Source: 1945-1954: Statistical Yearbook of France: retrospective 1966 (Institut national de la statistique et des études économiques).
1955-1966: Statistical Information No. 108 (Ministry of Education, Service central des statistiques et de la conjoncture).
1967-1968: Document No. 3,070; 1968-1969: Documents No. 3,436, 3,438 and 3,451 (Ministry of Education: Service central des statistiques et de la conjoncture).

Notes: (1) The figures given here are for state faculties, but they include enrolments in private faculties as students in the latter are obliged to enrol in a faculty in order to take the national examination (as an indication, these enrolments ranged around 9,000 and 10,000 between 1949 and 1956).
(2) The break observed in the series of figures for this year is certainly due to the change of source.
(3) Enrolled students only, i.e. excluding students in the Institutes and dental students.

TABLE 3

Enrolments in higher education other than in universities (state and private)

(in thousands)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Higher education and(1) technical training establishments																								
State				23							26			30	31	34			45	46	-		70	
Private				11							11			12	13	14			17	17	-		16	
Total				34							37			42	44	48			62	63	67		86	
(Total net of dual enrolments)(2)				2)							2)			2)	2)	2)			38	38	-		61	
Preparatory classes for the Grandes Ecoles(3)																								
State	10	9	9	10	14	12	13	13	13	14	14	15	15	17	(19)	(19)	19	20	23	24	25	24	25	27
Private	(1)	(1)	(1)	(2)	(2)	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	(2)	(2)	2	2
Total	(11)	(10)	(10)	(12)	(16)	14	15	15	15	16	16	17	17	19	(21)	(22)	22	22	25	26	(27)	(26)	27	29
Miscellaneous preparatory classes																								
State																	2	3	1	2	2	2	2	3
Private																	-	-	-	5	-	-	7	4
Total																	-	-	-	7	-	-	9	7
Higher technician sections in the technical lycées(4)																								
State												3	4				7	9	12	14	17	20	20	20
Private												-	-				-	-	-	-	-	-	9	6
Total												-	-				-	-	-	-	-	-	29	26
University Institutes of Technology (IUT)																								
State												-	-									2	5	12

Source: Statistical Yearbook of France, retrospective summary 1966 (Institut national de la statistique et des études économiques). Statistical Information: Brief Information Notes No. 17 (1968); Information Notes No. 14 (19th March, 1969) and No. 19 (28th April 1969): documents No. 3, 177, 3,178 and 3,507 (Grandes Ecoles) (Ministry of Education, Service central des statistiques et de la conjoncture). Statistical Annex to the Documentary Sheet, March 1962, November 1964, October 1965 (Bureau universitaire de statistiques et de documentation scolaires et professionnelles). All these sources are official; only figures between brackets are estimates made by the OECD Secretariat.

Notes:

1) Including the establishments known as Grandes Ecoles.
2) With the faculties; there is no exact account of dual enrolments for 1948, 1955, 1958 and 1960; the latter concerned about one-third of all enrolments.
3) Some students are also enrolled in a faculty; their number is not known.
4) Providing two years of study after the technical Baccalauréat or technician's diploma or equivalent; they should gradually disappear with the introduction of more IUTs.

TABLE 4

Trends of enrolments in the first and second cycles of state secondary education since 1960

France

(in thousands)

	1960	1961	1962	1963	1964	1965	1966	1967	1968
First cycle Total	1,135	1,256	1,361	1,417	1,463	1,535	1,593	1,744	1,978
of which: lycées	586	628	646	642	608	572	545	540	538
Second long cycle Total	306	348	421	483	533	563	588	575	563
of which: classical and modern lycées	232	265	314	352	381	401	412	407	391
of which: technical lycées(1)	74	83	107	131	152	162	176	168	171
Pro. mem.									
Total second cycle (long and short)	507					897			985
Total second technical cycle (long and short)	275					496			593

Source: Statistical publications of the Ministry of Education's Service central des statistiques et de la conjoncture.

Note: 1) Excluding the preparatory classes for higher technicians.

TABLE 5

Growth indices for enrolments at pre-school, primary and secondary levels, for various years between 1950 and 1968

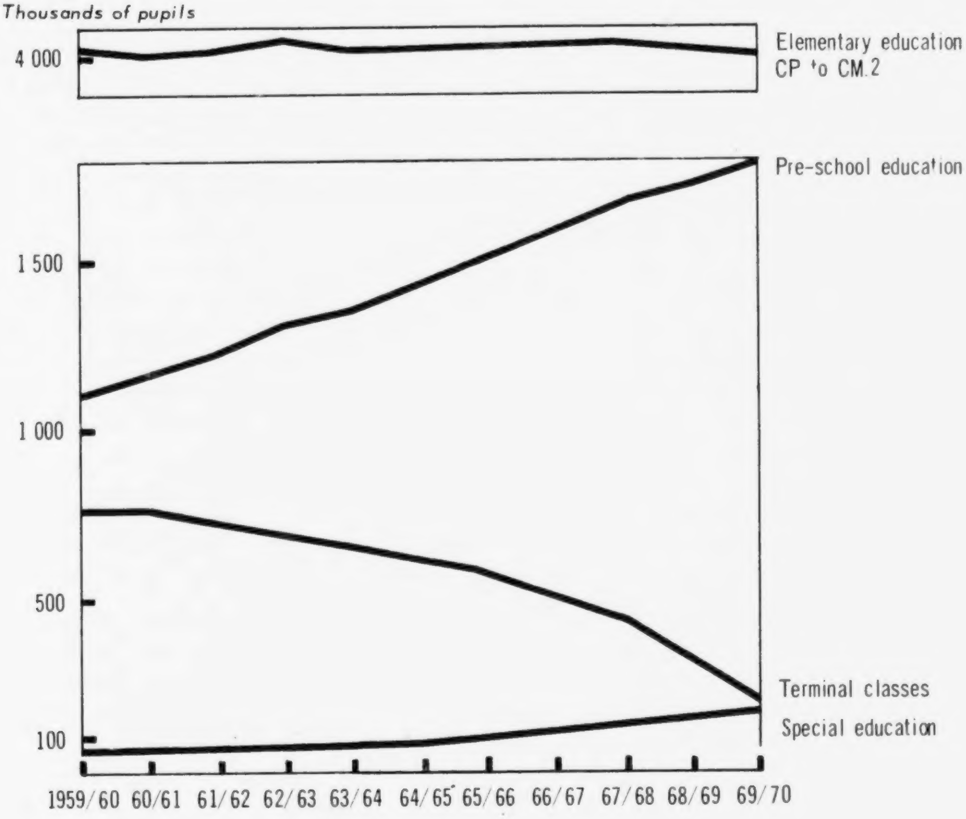
Level and type of education	1950	1955	1960	1965	1968
Pre-primary	100	114	122	158	181
(State + private)		100	107	138	158
			100	129	149
				100	115
Primary + special education	100	128	146	139	132
(State + private)		100	114	109	103
			100	96	91
				100	95
Short secondary(1)	100	135	256	351	-
(State + private)		100	191	261(2)	-
			100	137(2)	-
Classical, modern and technical lycées	100	130	198	247	249
		100	152	190	191
(State + private)			100	125	126
				100	101
Technical secondary schools	100	126	157	270	311
(State + private)		100	125	215	248
			100	172	197
				100	115
First-cycle secondary			100	135	174
(State)				100	129
Second-cycle secondary			100	177	194
(State)				100	110
[Pro mem.: University higher education]	100	113	150	292	394

Source: Tables 1, 2 and 4.

Notes:
1) Continuation schools ("cours complémentaires") up to 1959, "Collèges d'enseignement général" (CEGs) thereafter.
2) 1963; thereafter the CEG's were finally amalgamated with the "Collèges d'enseignement secondaire" (CESs).

Graph I

ENROLMENT TRENDS IN PRIMARY STATE EDUCATION
1959/60 1969/70



Source: Note d'information n° 38, 12th December, 1969, Ministry of Education, Service central des statistiques et de la conjoncture.

Enrolments in the classical, modern and technical lycées, which take pupils aged about 11 to 18, did not increase at the same rate between 1950 and 1968. As the lower secondary cycles were gradually dropped from the lycées owing to structural reforms, enrolments rose by only one quarter between 1960 and 1968, and were virtually at a standstill between 1965 and 1968. On the other hand, larger numbers attended the vocationally oriented technical secondary schools (CETs); the tripling of enrolments between 1950 and 1968 distracts attention from the fact that between 1950 and 1960 they rose by little more than half, whereas they increased by nearly three-quarters between 1960 and 1965.

If an attempt is made to compare the growth of numbers in the two secondary cycles, in state education alone, from 1960 onwards, enrolments for the upper cycle are found to have nearly doubled in the first five years, and to have slowed down considerably from 1965 to 1968 (rise of 10 per cent). Although enrolments for the lower cycle between 1960 and 1968 failed to rise by 75 per cent following the reforms designed to render this cycle autonomous and to eliminate the primary terminal classes, there was an increase of 30 per cent between 1965 and 1968. At the beginning of the 1969 school year, the state classical and modern lycées represented only a quarter of total enrolments at lower secondary level. In upper secondary education (state) there was also a change in the distribution of the numbers enrolled. The technical schools, representing 54.2 per cent of the numbers at this level in 1960, accounted for 60.2 per cent. The same holds true for the "long" second cycle of state education alone; the technical lycées enrolled 30.4 per cent of the total numbers in 1968, compared with 24.2 per cent in 1960.

Higher Education

To maintain some consistency in the growth comparisons, the last line of Table 5 indicates that between 1950 and 1968, enrolments in universities ultimately showed the steepest rise in the whole educational system: they increased nearly fourfold.

For statistical reasons, a special Table 6 has been drawn up for higher education. It shows that between 1945 and 1968, nearly a quarter of a century, university enrolments increased by a coefficient of about 5.6. From an analysis of a 20-year period (1948-1967), the total number of students included in Table 6 is found to have risen a little more than threefold, with the largest increase occurring between 1960 and 1967, when enrolments doubled. A quick comparison of the respective growth rate for university enrolments and enrolments in higher training and technical institutions (including the Grandes Ecoles, which cannot be considered separately for statistical reasons) shows that enrolments in the latter grew less rapidly. This first conclusion is to some extent confirmed by the slower rise in the number of pupils moving on from the preparatory classes to the Grandes Ecoles throughout the whole period considered.

For lack of complete statistics, the figures do not show the trend in the number of enrolments for the training of higher technicians. There has been a rapid extension in such types of training in state establishments, Table 7, first in the "higher technician" classes of the technical lycées, then in the new University Institutes of Technology. The growth of the latter explains the standstill in enrolments for the "higher technician" sections of the technical lycées which are to disappear when a complete network of IUTs has been set up as the first big step towards the diversification of higher education.

TABLE 6

Growth indices, for various periods, for enrolments in higher education(1) during the last twenty years

	1945	1948	1950	1955	1960	1965	1967	1968
University faculties (enrolments)	100		139	157	209	406		560
		100		117	156	303	356	
				100	134	259	305	
					100	194	228	
Non-university higher training and technical establishments (enrolments)(2)		100		109	141	197	253	
				100	130	181	232	
					100	140	180	
Preparatory classes for the Grandes Ecoles (enrolments)	100		127	145	200	245		264
		100		133	183	225	225	
				100	138	169	169	
					100	123	123	
Total (net of dual faculty/ Grandes Ecoles enrolments)		100		117	156	272	312	
				100	133	232	267	
					100	174	200	

Source: Tables 2 and 3.

Notes: 1) Excluding those attending various preparatory classes, "higher technician" sections of the technical lycées, and University Institutes of Technology.

2) Including enrolments for the Grandes Ecoles.

TABLE 7

Trend of "higher technician" enrolments

(state education)

	Sections of Technical Lycées	University Institutes of Technology
1961	6,946	-
1963	10,718	-
1965	17,356	175
1966	19,853	1,678
1967	20,281	5,412
1968	20,342	11,927
1969	20,055	17,287

From this brief summary, it can be seen that over a period of twenty years the education authorities have had to cope with rapid growth in enrolments occurring simultaneously or successively at the various levels and types of education. The reform measures themselves magnified the growth in enrolments resulting from demographic factors and social demand for education. The budgetary outlay which was required must therefore be studied carefully and compared with the output of the system.

PART ONE

BUDGETARY OUTLAY

TRENDS IN THE BUDGET OF THE MINISTRY OF EDUCATION FROM 1952 to 1968

Introduction

A study of trends in the education budget and their position in public finance should normally accompany any description of the education system in order to assess the resources allocated by a given society to education at a particular time.

Part One is devoted to a study of trends in the resources allocated to education by the central Government and, more specifically, the Ministry of Education budget from 1952 to 1968. This budget does not cover all education expenditure as other sources of finance - both private and public - also exist.

This limiting of the scope of the study appeared acceptable for several reasons. First, all the necessary information was not available: although the general budget of the state and of each ministry is known to us in detail, this is not the case as regards local authorities' budgets and, *a fortiori*, the participation of individuals - households, firms, foundations, etc. - in the financing of education, whether public or private.

For the same reasons it was not possible to go into the origin of the resources allocated to education.

Despite the limited scope of our study, the figures we have compiled are highly meaningful, since - owing to the highly centralised nature of administration in France and the adoption of the principle that the state has a duty to provide education to its citizens - the general budget and, within it, the budget of the Ministry of Education, account or about 90 per cent of the total expenditure.

⁂

The procedures for financing education in France in 1968 represent the current stage in the historical development of the state's role and of the various ways in which this role has been translated into action, particularly since the end of the 18th century. It will therefore be useful to give a brief historical account of the state's role in education in order to understand, if not to justify, the closely interwoven pattern of regulations that are currently in force.

A) The state's role from the end of the 18th century to 1952

It should be noted that, more than in other spheres, the part played by the state has been of prime importance in the development of education. In contrast to the present situation, the educational demand of households at the end of the 18th century was negligible (usually for economic reasons) and training on the job was sufficient to meet industry's needs where skills were concerned. From this period onwards, the state therefore provided incentives not only on humanitarian grounds but, more particularly, for political reasons, namely a desire to achieve national unity through culture and language and to set up an enlightened democracy by means of education, and at a later stage, the desire felt in some quarters to create a new ruling class. Certain politicians in the French Revolution of 1789 and later Napoleon I, to a more marked degree, were even more concerned with practical considerations and sought to provide the state with all the civil servants it needed in order to operate efficiently. The creation of the lycées and Grandes Ecoles (Polytechnique, Ecole normale supérieure, etc...) was partly inspired by this desire.

This does not mean that the state alone was responsible for financing education from the beginning of the 19th century. Private education continued to exist - and received protection and even assistance - until the Concordat of 1905. However, the part played by the state, while not very significant at the beginning, assumed increasing importance throughout the 19th and 20th centuries.

Initially the only schools that were completely financed by the state were those training the future administrative grades of the civil service, i.e. the Grandes Ecoles of the Revolution and the Napoleonic lycées. In other cases, the liberal state was content to stimulate the development of education by inducing local authorities to build schools (the Guizot Act of 1833) which they were also responsible for managing.

Nevertheless, from the middle of the 19th century the state was obliged to intervene on several occasions and transferred to its general budget part of the financial burden that the local authorities could no longer afford to bear. This action successively took the following forms:

- allocation of subsidies to local authorities for the construction of schools;
- payment of primary teachers' salaries;
- increasing the number of scholarships created during the Revolution for the benefit of children from poor families;
- introduction of free primary education (in 1881) and subsequently secondary education (as from 1936).

At the same time the state was developing its own system of education by the following measures:

- development of technical education from about 1890 onwards in order to offset the deficiencies of the apprenticeship system in firms;

- development of state higher education;
- creation of state lycées to supplement the network of département and commune schools.

Throughout this period lasting about one-and-a-half centuries during which the state gradually took a tighter grip on education through its increasing financial participation, the expansion of the education system was a fairly gradual one and the number of pupils increased only slowly. The figures available for this period do not appear sufficiently reliable to merit reference. Suffice it to say that for 1952 - which closes the period but is also one of the significant years inaugurating a new era for education in France - the Ministry of Education estimated that state expenditure on education, excluding grants for research, culture, information and sports, accounted for about 7 per cent of state budget expenditures and about 2.5 per cent of national income.

Nevertheless, there has been an unexpected mutation since 1950; the demand for education has extended to all levels. Furthermore, certain economic preoccupations have emerged in connection with planning and the social need for democratisation. Lastly, there has been increasing pressure upon the state to assume the entire responsibility for education and the corresponding functions.

B) Trends since 1952

Educational demand has increased apace since 1952. The school and university population has risen from 5.5 million in 1952 to 11.64 million (including 1.89 million in private education) in 1968.

This was due first to a rise in the birthrate after 1946 and secondly to the population's new attitude towards education.

The birth figure, which was less than 600,000 in 1945, rose to 800,000 in 1946 and has remained at roughly the same level since that date. In 1952, the population "bulge" began to affect primary schools. Accordingly, we have adopted 1952 as the beginning of our period for studying expenditure trends in the education budget in this report.

Furthermore, from that moment onwards, educational demand expanded appreciably for children who were not subject to compulsory schooling, namely in nursery schools and also beyond the period of compulsory schooling which then extended only to age 14. The proportion of pupils remaining at school after 14 years of age was 4.6 per cent of the age category in 1900, 41.8 per cent in 1950, and 68.8 per cent in 1962. The percentage of pupils over 16 years of age was 1.7 per cent in 1900, 14 per cent in 1950, 26.8 per cent in 1962 and 37.4 per cent in 1968(1); 1967, moreover, marked the application of the decision to postpone the end of the compulsory schooling period from 14 to 16 years of age.

This increase in the school population led to a corresponding increase in the educational spending of the state which has a duty, according to the Constitution of 1946, to organise "state-provided, free, secular education at all levels". However, the increase was not merely proportional to the increase in the school population, as several other factors contributed to the expansion of educational spending. In addition

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1) "Le financement de l'enseignement dans un système centralisé: La France" (in: Financing of Education for Economic Growth - OECD - Paris 1966), and the Secretariat's estimates for 1968.

to the growth of the population and the spontaneous and compulsory prolongation of the school attendance period, the following had to be provided for:

1. - Capital expenditure required as a result of geographical migration, which meant that country schools were being emptied but that new schools or new forms had to be set up in the more important communes and towns with a high population density;

- new arrangements for accommodating pupils, required as a result of the reforms in the syllabuses and the structure of the education system;

- increased budget appropriations entailed by the rise in building costs.

2. - Current expenditure arising from improvements in the educational infrastructure: the first improvements were apparent in the teacher/pupil ratio, following an increase in the number of teaching posts; then, in the various ancillary services connected with education (the transportation of pupils, teaching equipment, particularly audio-visual equipment, provision of free education material to primary pupils and to some secondary pupils, educational and vocational guidance, medical services, etc.);

- the allocation of more and more scholarships to children from the most under-privileged families who would not otherwise be able to pay for the education of their children.

Furthermore, as a result of pressure and of necessity, the state agreed to transfer to the state budget an increasing proportion of the expenses borne by local authorities and individuals: the cost of operating and building establishments for the communes, subsidies to private education, etc.

As regards the latter item, state subsidies had been suspended in 1905 when the church and state were separated. The Barangé Act of 1952 and, above all, the Debré Act of 1959 reintroduced state participation in the operating expenses of private schools.

There was therefore an increase in the general budget expenditures which may be explained quite simply as the product of increased unit costs and higher demand. A further consideration is that the authorities are compelled as a matter of principle to satisfy this demand, so that public spending is, in fact, determined by the pupil or student applying for admission to an educational establishment. The most the state can do is to try to meet the cost of receiving these new pupils with as little delay as possible.

C) Educational resources

Given the national accounts system in France, it is no easy matter to assess total educational resources. Nevertheless, some attempt has been made to do so for state education only for 1961.

In Table 8, the figure for the central Government's share is probably the most accurate, as it has been arrived at on the basis of the general budget. For the local authorities' share the position is different, as the Ministry of the Interior to whom the communes' budgets are communicated does not prepare a systematical analysis of them. Thus for our particular purpose it has been necessary to attempt a breakdown of these budgets, which are not always properly set out. The figure for the receipts from households was arrived at by adding the receipts recorded in various budgets - for example, those of the universities - and the fees paid to the Treasury.

Table 8 does not give any information about expenditure on private education or the origin of the funds so employed. However, an estimate made for the same year gives a spending figure of Frs. 1,536.9 million of which Frs. 322 million were provided by the state or by firms in satisfaction of the apprenticeship tax(1). The balance required for the financing of private schools, i.e. Frs. 1,214.9 million, was mainly provided by households. We would add that this is only a tentative estimate.

TABLE 8

Educational resources in 1961 (state sector)

Origin of resources	Unit: Frs. million
Central Government	
- Ordinary budget expenditure (all Ministries)	7,401.4
- Capital expenditure (education)	1,619.3
- Special account for primary education grants (Barangé Fund)	293
- Apprenticeship tax directly levied by the Ministry of Education	54
	9,367.7
Local authorities (particularly the communes)	1,002.1
Households: various fees and non-fiscal receipts	19
	10,388.8

Source: "Le financement de l'enseignement dans un système centralisé: la France" (op. cit.).

In 1961, the budget of the Ministry of Education totalled some Frs. 7,924 million, i.e. 76.2 per cent of total disbursements in the state sector. As it was impossible to determine exactly the trends in the allocation of expenses as between central and local authorities, Annex I sets out the rules which currently govern the distribution of the financial burden for each type of establishment.

Table 8 reveals that the Ministry of Education is not solely responsible, in the framework of the general budget, for the financing of education. Most of the other ministries devote a varying proportion of their budgets to the financing of educational expenditure. Thus:

- the Prime Minister's budget includes a subsidy to the Ecole Nationale d'Administration, a subsidy to the Institut des Hautes Etudes Internationales, etc.;

- the budget of the Ministry of Justice includes the amounts used for the running of schools for juvenile delinquents (90 per cent of the "educational" function of that Ministry), a subsidy to the Centre National d'Etudes Judiciaires, sums paid to the prison administration for educational purposes, etc.;

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1) "Le financement, de l'enseignement dans un système centralisé: la France" (op. cit.).

- the budget of the Ministry of Agriculture includes the operating expenses (wages, equipment, activities) and capital expenditure of all state agricultural schools and certain appropriations for agricultural training in the private sector;

- the budget of the Ministry of Equipment includes appropriations for the running of the Ecole Nationale de l'Aviation Civile, the Ecole de la Météorologie, the Ecole Nationale des Ponts et Chaussées, the Ecole Nationale de la Marine Marchande, etc.;

- the budget of the Ministry of Foreign Affairs has appropriations for teaching abroad, technical and cultural co-operation, etc.

Mention should also be made of the budget of the Ministries of the Armed Forces, Industry, Information, Interior, Finance, Scientific Research, Youth and Sports, etc.

D) The "education" function

In order to measure the respective contributions of the various ministries, a breakdown is given in Table 9, for 1968 and according to the categories shown in the national accounts, of the various sums allocated first to education and culture, and secondly to the "education" function. Educational and cultural action has five sub-headings:

- education;
- research;
- arts and humanities;
- information;
- youth and sport.

Consideration has been restricted to the sub-heading education which comprises all educational expenditure from all sources and excludes whatever is not educational in the strictest sense.

A study of the appropriations for education and culture, as set out in Table 9, will reveal that the Ministry of Education provides 78.55 per cent of the total amount voted and that its budget is devoted almost entirely to the education side. Five other Ministries account for quite an appreciable proportion of educational and cultural expenditure, namely, the Ministries of:

- the Economy and Finance	6.66 per cent
- General Services	4.36 per cent
- Youth and Sport	3.73 per cent
- Agriculture	2.83 per cent
- Cultural Affairs	1.92 per cent

The respective share of each of the other ministries does not exceed one per cent.

If we now turn to the appropriations for the "education" function, the distribution of the various shares differs appreciably. Thus, the Ministry of Education provides 89.24 per cent of the funds allotted, the Ministry for the Economy and Finance, 7.73 per cent, the Ministry of Agriculture, 2.36 per cent. In other words, three ministries shoulder 99.33 per cent of the cost of education.

TABLE 9

Operating budget 1968: respective total cost and comparative figures for the education function and for educational and cultural action

(Frs. '000)

Government Department	Education Function				Education and cultural action				Share of expenditure on education in educational and cultural action
	Operation and Transfers	Capital Expenditure	Total Expenditure	%	Operation and Transfers	Capital Expenditure	Total Expenditure	%	
Education	15,614,227	3,630,000	19,244,227	89.24	16,553,296	3,800,000	20,353,296	78.55	94.55
Cultural affairs	41,684	-	41,684	0.20	284,580	213,500	498,080	1.92	8.36
Social affairs	23,299	-	23,299	0.11	125,329	28,000	153,329	0.59	15.19
Foreign affairs	-	-	-	-	68,231	-	68,231	0.26	-
Economy and Finance	1,666,499	-	1,666,499	7.73	1,738,269	-	1,738,269	6.66	95.87
General Services	-	-	-	-	109,643	1,019,000	1,128,643	4.36	-
Equipment and housing	3,527	3,500	7,027	0.03	25,578	11,600	37,178	0.14	18.90
Industry	10,434	-	10,434	0.05	48,880	15,000	63,880	0.25	16.33
Agriculture	277,444	231,860	509,304	2.36	441,083	291,860	732,943	2.83	69.48
Transport	-	-	-	-	1,379	-	1,379	0.06	-
Information	-	-	-	-	95,442	-	95,442	0.37	-
Youth and sport	-	-	-	-	590,294	375,000	965,294	3.73	-
Merchant Navy	17,171	-	17,171	0.08	26,256	1,000	26,256	0.10	65.39
Civil Aviation	4,390	37,500	41,890	0.20	10,390	37,500	47,890	0.18	87.47
Total	17,658,675	3,902,860	21,561,535	100.00	20,111,650	5,798,460	25,910,110	100.00	83.21

Source: Report No. 364 to the National Assembly - Cultural Affairs T.IX.1969 (p. 11).

TABLE 10

Expenditure by ministries on education in 1966

Budgets	(Francs '000)
- Prime Minister	9,993.7
- Justice	91,754.9
- Ex-servicemen and war victims	8,250.0
- Finance	1,530.9
- Agriculture	529,797.7
- Interior	2,478.7
- Equipment	23,935.9
- Information	13,137.0
- Ministry responsible for administrative reform	10,049.1
- Foreign affairs	735,269.6
- Armed forces	124,500.0
- Industry	17,591.0
- Youth and sport	876,455.7
- Scientific research	707.1
- Education	17,443,400.0

Source: Report to the National Assembly for 1967.

It should be noted that Table 9 does not show either expenditure on adult vocational training (Frs. 334 million in the form of ordinary expenditure and Frs. 90 million in the form of authorised payments) or the grant to the National Fund for vocational training and social betterment (Frs. 227 million) as in drawing up the operational budget these expenses are regarded as coming under the heading of social action. This explains why the whole education budget is not taken up by educational and cultural action.

It is also necessary to add about Frs. 162 million distributed between the additional budget for the Legion of Honour, a loan account for private agricultural training and a special account (Frs. 129,200,000) for aid to film making.

E) Rising trend of expenditure on education in the general budget

Increased expenditure on education has altered the proportion of appropriations allocated to educational and cultural action and to the "education" function in the general budget. This change shows the importance attached by governments to education policy. Table 11 gives the figures for the period 1958 and 1968.

The first point to note is that over an eleven-year period the appropriations for the "education" function have increased more rapidly than those for educational and cultural action, and faster still than those in the general budget itself: the education function increased at one-and-a-half times the rate of the general budget, for whereas in 1958 it represented 11.1 per cent of such budget, in 1968 it amounted to 17.6 per cent. The process has not been a steady one, in particular progress was much faster in 1962, 1963 and 1964 than during the years immediately preceding or following that period. At the present time, expenditure on education represents on average 17 per cent of the general budget.

The growth of appropriations for educational and cultural action has not run exactly parallel with that of funds voted for education: for instance, at the start of the period under consideration it was slower. On the other hand, since 1964 it has been more rapid on account of increased expenditure on cultural affairs, youth and sport. Thus the share of educational and cultural action in the general budget has grown from 13.8 per cent in 1958 to 20.79 per cent in 1968; this increase has been a steady one.

Doubtless it would be interesting to make a detailed analysis of the "educational and cultural action" function, and, within this function, of the subsidiary function "education". But it would be necessary to bring together data which at the moment are not properly compatible and which are scattered among various budgets, and this would make the task a difficult one except for the most recent years.

In order to be able to use a sufficiently long historical series covering the best known aggregate of education costs and almost the whole of the pupils, we have limited our study to the budgets of the Ministry of Education since 1952.

After an overall study of the trends in this budget, we will analyse separately capital and operating expenditure. Indeed, operating expenditure will be the subject of two-fold analysis, first by main chapters and secondly by major sectors.

TABLE 11

Comparative trends in educational and cultural action, the education function and the general state budget, from 1958 to 1968

(in millions N.Frs.)

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
A. Educational and cultural action											
I. Ordinary expenditure (of which, education)	5,166 (4,157)	5,989 (5,211)	7,707 (5,961)	7,700 (6,791)	8,962 (8,008)	10,905 (10,033)	12,924 (11,620)	14,878 (13,261)	16,225 (14,487)	17,854 (15,778)	20,112 (17,659)
II. Capital expenditure (of which, education)	1,320 (1,135)	1,717 (1,454)	1,938 (1,684)	1,825 (1,541)	1,989 (1,611)	2,367 (1,979)	3,321 (2,594)	3,584 (2,756)	3,840 (2,890)	5,016 (3,502)	5,798 (3,903)
Total (of which, education)	6,486 (5,222)	7,706 (6,665)	8,665 (7,645)	9,525 (8,332)	10,951 (9,619)	13,272 (12,012)	16,245 (14,214)	18,462 (16,017)	20,065 (17,377)	22,870 (19,280)	25,910 (21,562)
Ratio education/educational and cultural action as a percentage	80.51%	86.49%	88.22%	87.47%	87.8%	90.50%	87.49%	86.75%	86.60%	84.30%	83.21%
B. General state budget	46,990	54,800	58,011	62,861	70,098	76,888	86,312	92,369	100,675	113,842	124,581
% representing expenditure on educational action	13.80%	14.06%	14.93%	15.15%	15.62%	17.26%	18.82%	19.98%	19.93%	20.08%	20.79%
% representing expenditure on education	(11.11%)	(12.16%)	(13.17%)	(13.25%)	(13.72%)	(15.62%)	(16.46%)	(17.34%)	(17.26%)	(16.93%)	(17.30%)

Source: - from 1958 to 1964: "Informations statistiques" No. 59, May 1964.
- from 1965 to 1968: Reports to the National Assembly by the Commission for Cultural Affairs.

Chapter I

THE BUDGET OF THE MINISTRY OF EDUCATION: AN ANALYSIS OF ITS DEVELOPMENT

A) Principles for drawing up the budget

The budget is a document which makes it possible to administer, taking 1968 as an example, 625,960 civil servants, 9,749,000 pupils and Frs. 20,500 million. It is a document prepared annually and covers the calendar year.

Two main features should be borne in mind:

- the education budget is a programme of expenditure only since all receipts are merged in the general budget of the state;

- once it has been adopted by Parliament, the programme has mandatory effect as regards the minister and the officials responsible for implementing education policy. Even if they were voted as a whole, each of the chapters must be treated separately. During the year,"virements"may take place but they require a complicated procedure and in any case may not exceed one-tenth of the chapter concerned, as voted.

The present-day procedure for drawing up the budget - which is the same for all ministries - is set out in Annex II. However, it may be helpful if we here allude briefly to some of the principles governing its preparation, as this may serve to throw some light on the way it has developed during the period under review.

Estimates of expenditure are drawn up in the Ministry of Education by each department and are then made into a consolidated whole by the Budget Department. However, as regards current expenditure, the principle has been accepted that the conditions recognised as applying to the number of enrolments in the previous year should at the very least be maintained for the number - which may be greater - in the year in which the budget is to be implemented. In other words,the quality of the service supplied to each pupil should be maintained. This serves as a basis for assessing expenditure. The cost of improving the service can then be added,if so desired.

On the other hand, the annual amount of capital expenditure is related to four-yearly or five-yearly estimates. This relationship, though close, is nevertheless fairly flexible, since the Plan determines a global sum which is regarded as desirable for investment in education during the period of implementation of the Plan, without laying down any annual instalments. The appropriate departments of the ministry therefore have the task of making proposals as to the part of the Plan to be implemented each year.

Mention of these few principles immediately reveals the difficulty of including any new form of activity in a budget in which most of the major aggregates are automatically reproduced.

TABLE 12

Comparative trends in the Ministry of Education budget, the total state budget, national income and gross national product from 1952 to 1968

(N.Frs. '000,000)

Year	Ministry of Education Budget(1)	Total Budget	National Income	Gross National Product	Education Budget as a percentage of Total Budget %	Education Budget as a percentage of National Income %	Education Budget as a percentage of GNP %
1952	2,208.9	30,630	109,430	145,630	7.21	2.02	1.52
1953	2,766.7	32,810	114,560	151,910	8.43	2.41	1.82
1954	2,952.3	32,260	122,330	160,810	9.17	2.42	1.84
1955	3,241.6	33,650	132,770	172,160	9.63	2.44	1.88
1956	3,662.6	38,420	148,400	191,330	9.53	2.47	1.91
1957	4,225.2	42,460	164,060	213,000	9.95	2.57	1.98
1958	4,829.5	46,990	188,630	244,710	10.28	2.56	1.97
1959	6,461.3	54,800	202,930	267,377	11.79	3.18	2.42
1960	7,194.2	58,011	227,000	296,223	12.40	3.17	2.43
1961	7,924.0	62,861	243,990	319,689	12.61	3.25	2.48
1962	9,100.2	70,093	272,400	356,294	12.98	3.34	2.55
1963	10,835.9	76,888	300,074	395,972	14.09	3.61	2.74
1964	13,725.4	86,312	327,439	435,238	15.90	4.19	3.15
1965	15,693.1	92,369	346,773	461,437	16.99	4.53	3.40
1966	17,438.4	100,675	375,900	500,500	17.32	4.64	3.48
1967	18,543.3	113,623	401,900	536,300	16.32	4.61	3.46
1968	20,519.5	124,505	428,800	574,300	16.48	4.79	3.57
Growth expressed as an index							
1952	100	100	100	100			
1968	928.94	406.48	391.85	394.36			

Source: 1. Ministry of Education Budget 1952-1968: Voted Budget

2. Total Budget 1952-1964 Informations Statistiques, May 1964.
1965-1968 National Assembly Report 459 - Cultural Affairs 1968.

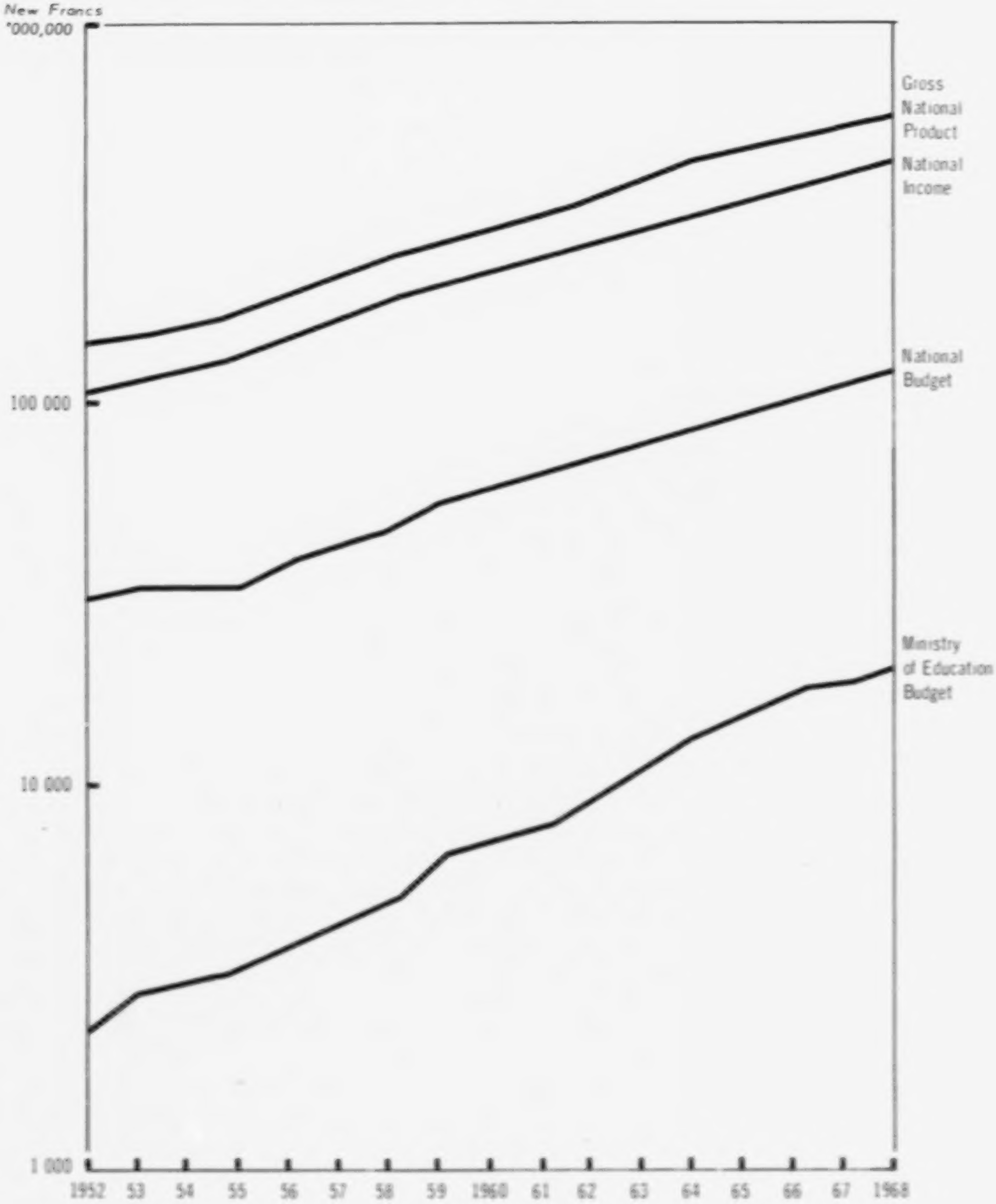
3. National Income 1952-1965 Retrospective Yearbook 1966.
1966 INSEE
1967-1968 Forecasts Directorate of the Ministry for the Economy and Finance.

4. Gross National Product 1952-1965 Retrospective Yearbook 1966.
1966-1968 National Assembly Report 459 - Cultural Affairs 1968.
National Assembly Report 264 - Cultural Affairs 1969.

Note: (1) Authorised payments.

Graph II

COMPARATIVE TRENDS IN THE BUDGET OF THE MINISTRY OF EDUCATION, THE NATIONAL BUDGET, NATIONAL INCOME AND GROSS NATIONAL PRODUCT



The budget is submitted to Parliament at the end of each year for the following calendar year: the version finally adopted is called the "voted budget". If, in the course of its implementation, the initial sums allocated turn out to be insufficient, the Government may ask Parliament to vote one or even two supplementary budgets known as "collectifs".

In what follows we have always based our figures on the voted budgets since the budgetary "collectifs" of one year are in practice comprised in the next year's budget figures, in which the same block items of expenditure recur, and our aim is to analyse budget expenditure over a fairly long period.

B) General trend of the education budget

In 1952, the budget of the Ministry of Education amounted to N.Frs. 2,208.9 million and represented 7.21 per cent of the total budget of the State. This figure was 2.02 per cent of national income and 1.52 per cent of the gross national product. In 1968 it amounted to N.Frs. 20,519.5 million, representing 16.48 per cent of the State budget, 4.79 per cent of national income and 3.57 per cent of the gross national product.

If these figures are compared with those of total pupil enrolments, it will be seen that expenditure by the Ministry of Education is 9.29 times as large, whilst enrolments here increased only 2.12 times. But if a deduction from the budget is made to allow for depreciation in the purchasing power of money, we shall obtain the real rate of growth of the budget, which is still very large and in any case higher than the increase in enrolments; in fact it is three times greater.

Table 12 shows comparative trends in the budget of the Ministry of Education, the total budget, national income and gross national product from 1952 to 1968. As will be seen from this table, in 16 years the relative share of education has more than doubled since, while:

- the total budget index rose from 100 to 406.48;
- national income index rose from 100 to 391.85;
- gross national product index rose from 100 to 394.36,

the budget of the Ministry of Education rose from index 100 to index 928.94, representing an average annual increase slightly in excess of 15 per cent.

As mentioned previously, the rise in absolute terms of the budget of the Ministry of Education is less startling if we apply a conversion factor for francs at constant prices. With a base index of 100 in 1952, we then have an index of 595.48 in 1968 instead of 928.9 (Table 13). In order to convert the figures into "constant" francs for 1967 we have used the index of decline in purchasing power of the franc worked out by INSEE from the wholesale and retail price indices. This index doubtless has disadvantages, in particular because it is a general index. But this does not appear to be a major objection as we think it is more important to choose a general index, giving greater coherence to subsequent comparisons, than a number of special indices which, while providing greater accuracy for each sector, tend to make comparisons inaccurate.

From 1958 to 1968 the rise in the budget of the Ministry of Education was not a steady one, being more or less linked with that of the national budget. This can be seen from the trend of the percentage taken up by the education budget in the national budget. This percentage rose steadily from 1952 to 1966, save for a slight drop in 1956. In 1967 and 1968 the relative share of the Ministry of Education was smaller - although the budget continued to increase - as a result of a slower rise as compared with 1966. Nevertheless, in 1968 the Ministry of Education accounted for one-sixth of the national budget.

It will be seen that the trend of the Ministry of Education budget has been practically parallel with those of national income and gross national product but with some falling off in 1958 and in 1967 (see Graph II).

TABLE 13

Trend of the Ministry of Education budget, as initially voted, from 1952 to 1968

(In francs at constant and current prices) (in thousands NF)

Year	Budget as voted	Index of growth: base year 1952 = 100	Conversion factor (francs at constant 1967 prices)	Budget voted expressed in francs at contant 1967 prices	Index of growth: base year 1952 = 100
1952	2,208,905	100	1.56	3,445,892	100
1953	2,766,750	125.25	1.61	4,454,468	129.27
1954	2,952,292	133.65	1.62	4,782,713	138.79
1955	3,241,557	146.75	1.62	5,251,322	152.39
1956	3,662,644	165.81	1.55	5,677,098	164.75
1957	4,225,236	191.28	1.49	6,295,602	182.70
1958	4,829,478	218.64	1.31	6,326,616	183.60
1959	6,461,310	292.51	1.25	8,076,638	234.38
1960	7,194,167	325.69	1.21	8,704,942	252.62
1961	7,924,001	358.73	1.18	9,350,321	271.35
1962	9,100,241	411.98	1.13	10,283,272	298.42
1963	10,835,867	490.55	1.08	11,702,736	339.61
1964	13,725,443	621.36	1.06	14,548,970	422.21
1965	15,693,114	710.44	1.04	16,320,839	473.63
1966	17,438,386	789.45	1.01	17,612,770	511.12
1967	18,543,320	839.47	1.00	18,543,320	538.13
1968	20,519,499	928.94	-	20,519,499	595.48

Source: Budgets as voted.

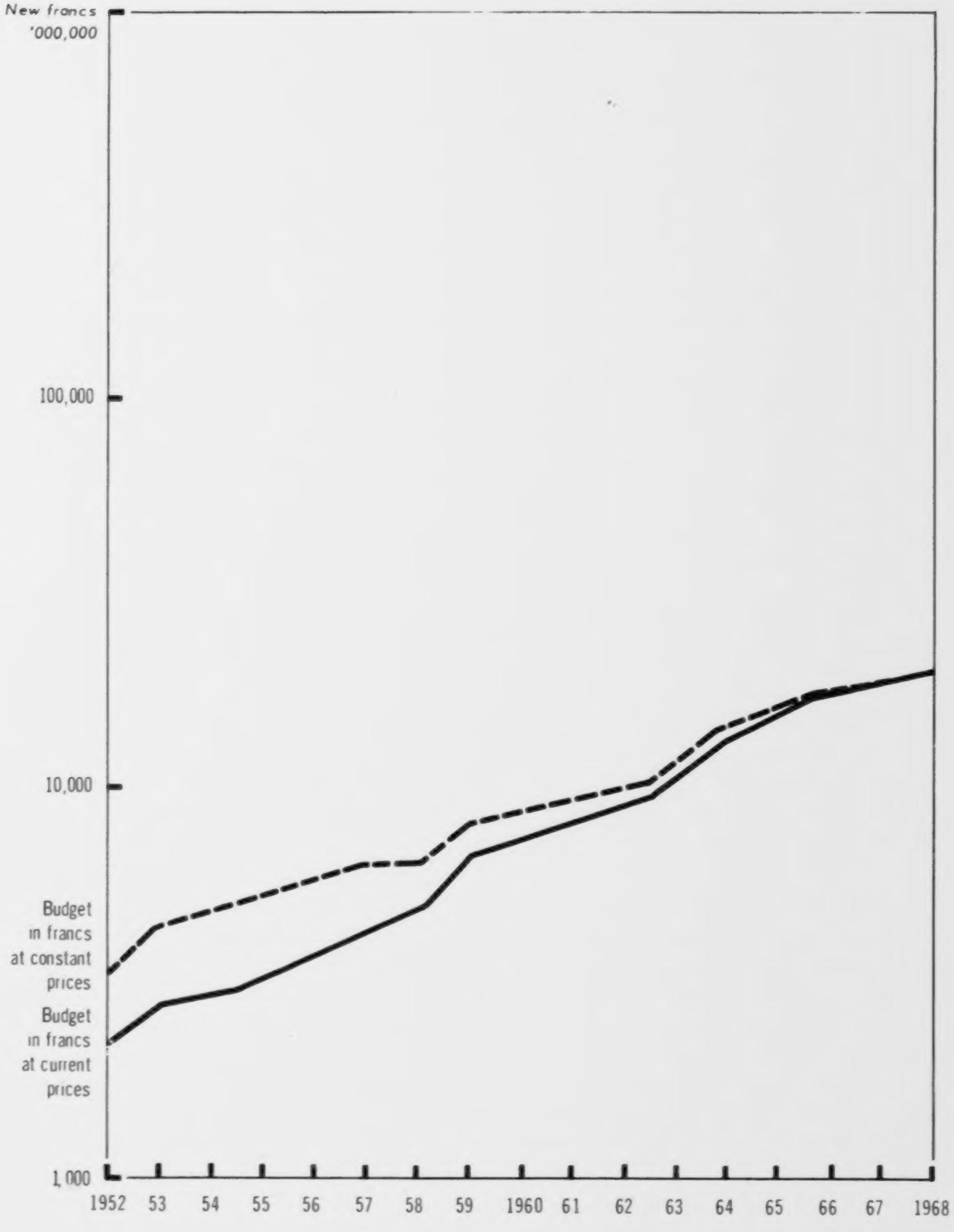
C) Respective trends of ordinary and capital expenditure

More significant results will be obtained by examining the separate trends of ordinary expenditure - i.e. Heading III: "Means supplied to education services" and Heading IV: "Official action" in the voted budget, and of capital expenditure - i.e. Heading V: "Investment carried out by the State" and Heading VI: "State subsidies for investment" (Tables 14 and 15).

In 1952 and before, capital investment represented only 10 per cent of expenditure in the ministry's budget. As from 1953, the need to build new schools to receive the 200,000 additional children born each year from 1946 onwards who would be reaching the age of compulsory schooling forced the ministry to make a very considerable outlay on capital investment. The percentage of this rose in 1953 to 15.34 per cent of the ministry's budget, then to 20.66 per cent the following year and in 1958, 1959 and 1960

Graph III

TREND OF THE MINISTRY OF EDUCATION BUDGET EXPRESSED IN FRANCS AT CURRENT AND CONSTANT PRICES



it exceeded 25 per cent. Since the latter date it has fallen back to about 17 per cent. It would be erroneous to think that the effort made in regard to capital expenditure had been achieved to the detriment of ordinary expenditure, as this rose from index 100 to index 837.94 (537.14)(1) during the period under review. The much more rapid rise in capital expenditure caused this latter to move from index 100 to index 1779.02 (1,140.40). This rate of increase is explained by the fact that between the 1914-1918 and 1939-1945 wars very little building had been done, the responsibility for this having been left to muncicipal authorities with very limited means available. The destruction caused by war, the ageing of existing buildings and equipment, the population explosion and finally the increased demand for education faced the Government in 1952 and during the ensuing years with tasks that were all the heavier by reason of the need to step into the shoes of the communes which were unable to make the necessary investment. The building programme has been less intensive - in proportion - since 1961.

The increase in ordinary expenditure has been less marked since such expenditure, which is mainly concerned with staff, is closely related to enrolments ; thus the new situations that arose were not rendered more acute by accumulated backlogs from previous years.

Nevertheless an appreciable effort has been made to improve the education service and the remuneration of the teachers, so that the rate of increase in appropriations has outstripped the increase in teaching staff (rising almost three times as fast).

In the paragraphs that follow we have used a Ministry of Education budget from which appropriations for cultural affairs (museums, public records, architectecture, ancient monuments, etc.) and youth and sports have been omitted. Indeed, since 1960 for cultural affairs and 1966 for youth and sport, these appropriations are contained in separate budgets. However, we have not confined the Ministry of Education's budget to the education expenditure in the functional budget, since the information available does not make it possible to dissociate the research and information functions from the education function in the narrow sense.

Table 16 shows the trend of the voted budget (after deducting appropriations for cultural affairs and youth and sport) from 1952 to 1968.

Without the appropriations that relate less directly to education, these budgets show a slightly higher rate of increase than was reflected in Table 15. This is particularly noticeable as regards capital expenditure. Analysis shows that the investment programmes since 1952 were concerned almost exclusively with education, and with youth and sport only to a very slight extent. Capital expenditure on cultural affairs was negligible.

In regard to capital expenditure, the size of the appropriations (we have here considered payment approvals) should be related to equipment plans: during the early years of the implementation of a plan, the amounts committed are generally smaller than in the closing years.

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1) The figure given in brackets is the index obtained by applying the conversion factor for francs at constant prices. See Table 15.

TABLE 14

Trends of ordinary and capital expenditure in the budget of the Ministry of Education from 1952 to 1968

(In thousands NF at current prices)

Year	Budget as voted	Ordinary expenditure	Capital expenditure (payment approvals)	% of operating expenses in budget voted	% of capital expenditure in budget voted
1952	2,208,905	1,995,305	213,600	90.33	9.67
1953	2,766,750	2,342,370	424,380	84.66	15.34
1954	2,922,292	2,342,452	609,840	79.34	20.66
1955	3,241,557	2,501,857	739,700	77.18	22.82
1956	3,662,644	2,922,644	740,000	79.80	20.20
1957	4,225,236	3,305,236	920,000	78.23	21.77
1958	4,829,478	3,579,478	1,250,000	74.12	25.88
1959	6,461,310	4,810,710	1,650,600	74.45	25.55
1960	7,194,167	5,375,167	1,819,000	74.72	25.28
1961	7,924,001	6,304,701	1,619,300	79.56	20.44
1962	9,100,241	7,450,241	1,650,000	81.87	18.13
1963	10,835,867	9,036,967	1,798,900	83.40	16.60
1964	13,725,443	11,129,943	2,595,500	81.09	18.91
1965	15,693,114	12,963,114	2,730,000	82.60	17.40
1966	17,438,386	14,538,386	2,900,000	83.37	16.63
1967	18,543,320	15,184,820	3,358,500	81.89	18.11
1968	20,519,499	16,719,499	3,800,000	81.48	18.52
	Trend expressed as an index				
1952	100	100	100		
1968	928.94	837.94	1,779.02		

Source: Budgets as voted.

TABLE 15

Trends of ordinary and capital expenditure in the budget of the Ministry of Education from 1952 to 1968 after applying the conversion factor for francs at 1967 prices

(In N.F. '000)

Year	Conversion factor for francs at 1967 prices	Budget as voted	Ordinary expenditure	Capital expenditure (payment approvals)
1952	1.56	3,445,892	3,112,676	333,216
1953	1.61	4,454,468	3,771,216	683,252
1954	1.62	4,782,713	3,794,772	987,941
1955	1.62	5,251,322	4,053,008	1,198,314
1956	1.55	5,677,098	4,530,098	1,147,000
1957	1.49	6,295,602	4,924,802	1,370,800
1958	1.31	6,326,616	4,689,116	1,637,500
1959	1.25	8,076,638	6,013,388	2,063,250
1960	1.21	8,704,942	6,503,952	2,200,990
1961	1.18	9,350,321	7,439,547	1,910,774
1962	1.13	10,283,272	8,418,772	1,864,500
1963	1.08	11,702,736	9,759,924	1,942,812
1964	1.06	14,548,970	11,797,740	2,751,230
1965	1.04	16,320,839	13,481,639	2,839,200
1966	1.01	17,612,770	14,683,770	2,929,000
1967	1.00	18,543,320	15,184,820	3,358,500
1968	-	20,519,499	16,719,499	3,800,000
Trend expressed as an index				
1952		100	100	100
1968		595.48	537.14	1,140.40

Source: Budgets as voted.

Graph IV

TRENDS OF ORDINARY AND CAPITAL EXPENDITURE FROM 1952 TO 1968 IN THE BUDGET OF THE MINISTRY OF EDUCATION

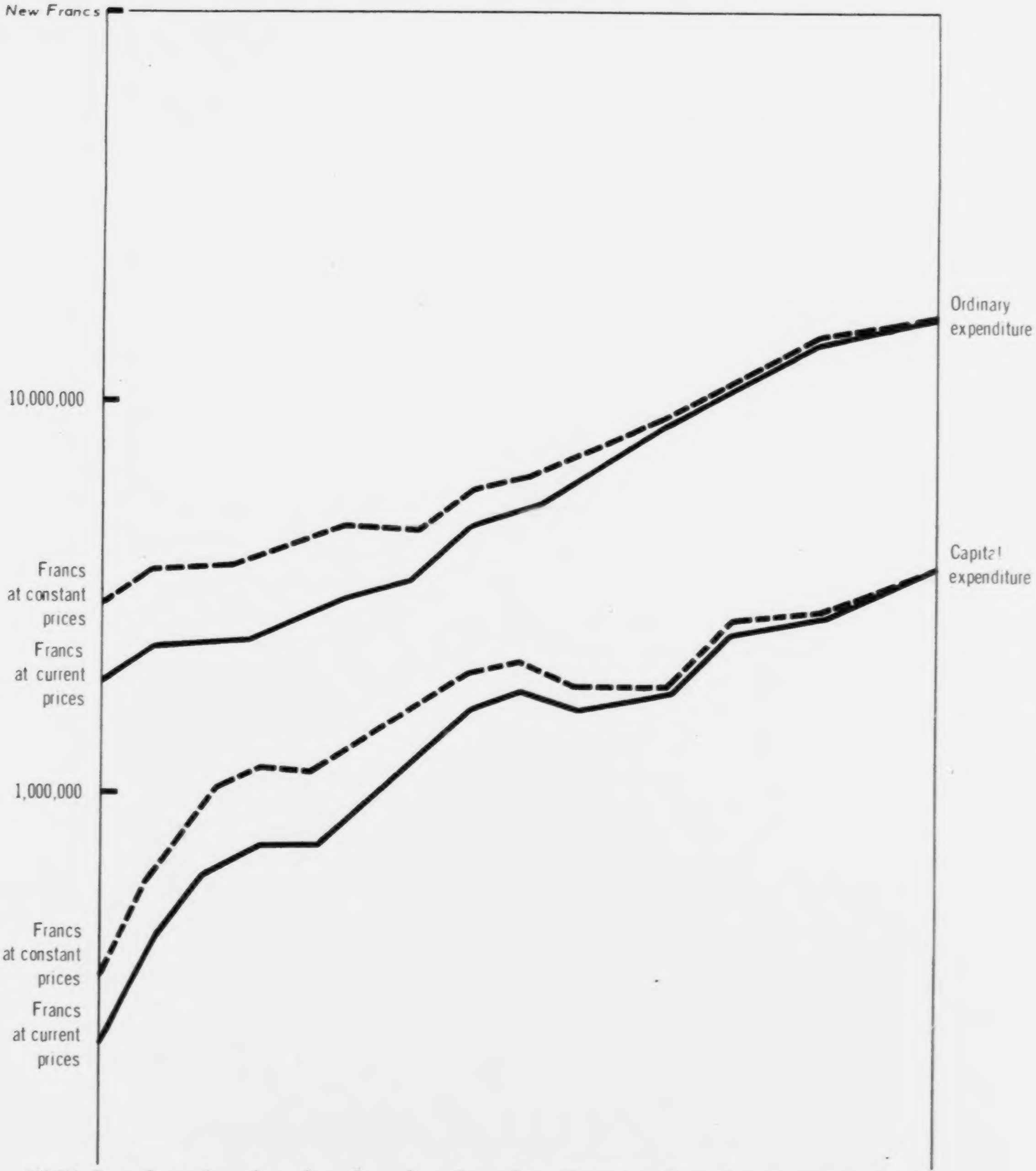

TABLE 16

Trend of expenditure on education by the Ministry of Education

(voted budget after deduction of appropriations for cultural affairs and youth and sports)

(in thousands NF)

Year	Total education budget	Operating expenditure	Capital expenditure (payment approvals)	Amounts expressed in francs at constant prices		
				Total education budget	Operating expenditure	Capital expenditure (payment approvals)
1952	2,104,165	1,854,453	249,712	3,282,497	2,892,947	389,550
1953	2,582,219	2,179,019	403,200	4,157,373	3,508,221	649,152
1954	2,736,113	2,178,843	557,270	4,432,503	3,529,726	902,777
1955	3,000,696	2,317,956	682,740	4,861,128	3,755,089	1,106,039
1956	3,323,119	2,723,899	599,220	5,150,834	4,222,043	928,791
1957	3,945,364	3,089,294	856,070	5,878,592	4,603,048	1,275,544
1958	4,525,918	3,355,058	1,170,860	5,928,953	4,395,126	1,533,827
1959	6,066,218	4,527,278	1,538,940	7,582,773	5,659,098	1,923,675
1960	6,949,747	5,202,747	1,747,000	8,409,194	6,295,324	2,113,870
1961	7,672,681	6,106,381	1,566,300	9,053,764	7,205,530	1,848,234
1962	8,795,371	7,211,371	1,584,000	9,938,769	8,148,849	1,789,920
1963	10,484,167	8,758,267	1,725,900	11,322,900	9,458,928	1,863,972
1964	13,246,703	10,756,703	2,490,000	14,041,505	11,402,105	2,639,400
1965	15,085,994	12,540,994	2,545,000	15,689,434	13,042,634	2,646,800
1966	16,374,294	13,674,294	2,700,000	16,538,037	13,811,037	2,727,000
1967	18,165,683	14,807,183	3,358,500	18,165,683	14,807,183	3,358,500
1968	20,127,762	16,327,762	3,800,000	20,127,762	16,327,762	3,800,000
	Trend expressed as an index					
1952	100	100	100	100	100	100
1968	956.56	880.46	1,521.76	613.18	564.40	975.48

Source: Budgets as voted.

Chapter II

CAPITAL EXPENDITURE BY THE MINISTRY OF EDUCATION

Each ministry's budget contains two kinds of expenditure: ordinary and capital expenditure.

Capital expenditure is concentrated under Headings V and VI, i.e. "Investment carried out by the state" and "state subsidies for investment", respectively. Direct expenditure by the state on capital investment increases the amount of government property and the capital assets of the state: as regards the school investment programme, such appropriations cover only state-owned establishments. On the other hand, indirect investment is affected by public authorities other than the state or by private bodies or individuals with the help either of loans or of repayable advances, or of out-and-out gifts from the state. The latter alternative is that applicable in regard to local authorities, for the building of educational establishments to which the state contributes.

The notion of capital expenditure is subject to various interpretations and a number of decisions have been needed to define the exact dividing line between capital expenditure and operating expenditure.

According to the existing provisions, the following are deemed to be capital expenditure:

- acquisition of real estate (land and buildings);
- acquisition of equipment, furniture, tools and apparatus for any new establishment or for the creation of new technical sections in establishments providing technical education;
- acquisitions for the purpose of renewing, modernising or completing existing installations, provided the unit value of equipment is not less than Frs. 10,000 for workshop equipment or Frs. 5,000 for classroom equipment and furniture;
- major repairs of a type which under the general law would be the responsibility of the owner of the property.

It follows that expenditure on upkeep of furniture, of school premises and of housing for staff, and all purchases of equipment not included in the categories set out above (and in particular those relating to the replacement of equipment as a result of wear and tear or obsolescence, and to supplementary items not justified on grounds of the recent creation of the establishment or the section concerned), come under the heading of operating expenditure.

As in most other countries, the budget is drawn up and voted yearly. Its implementation covers one year. Nevertheless, the principle of yearly budgeting is incompatible with the adoption of a rational investment policy; accordingly, for such expenditure, a system of pluri-annual authorisations is now regularly used. This system makes it possible to vote certain appropriations for spending over a period of years.

The above procedure relates to categories of expenditure of known order of magnitude, the amount of which cannot however be accurately stated or in respect of which it is not possible to place the orders, have them executed and complete the procedure of payment in one year. Taking school buildings as an example, there must first be a decision to build, then plans must be drawn up and the technical specifications for the building must be laid down. Then the orders must be placed, i.e. the expenditure must be "committed"; the concept of committal or of programme is thus the deciding factor.

Thereafter, the actual work of building may take a number of years but the process will throughout be related to the initial commitment entered into. In budgetary terms, this form of commitment is called programme authorisation. Programme authorisations are thus an exception to the principle of a yearly budget.

Within the framework of the yearly budget it is therefore necessary to distinguish between programme authorisations and what are called payment approvals. The latter cover the cost of the proportion of the work which will actually be carried out during the year in question.

This explains why the amounts of payment approvals and of programme authorisations differ and why payment approvals may even be higher than programme authorisations when a large number of the latter have been given in earlier years.

It is also important not to confuse programme authorisations with the estimates for capital investment appropriations in the Plan. The latter represent an assessment of the needs recognised as essential by the School Capital Expenditure Commission (Commission de l'équipement scolaire) during the period of the Plan, but the figures have no binding effect and do not correspond to a mandatory yearly timetable; consequently, each year the amount to be allotted for capital expenditure is debated between the Ministry of Education and the Ministry of Finance in the light of the economic situation, of total needs and of schemes in progress.

The Plan thus serves only as a basis for the applications submitted by government departments which may, in addition, request the taking of measures not provided for in the Plan.

It should also be noted that the appropriations appearing in the budget are not always entirely spent within the budget year by reason of delays caused, in most cases, by administrative complications or lack of suitable building sites. Some appropriations may then be carried forward to the budget of the following year, though this is not automatic. It is therefore possible to discover for each year the rate of utilisation of appropriations, reflecting the extent of annual implementation in relation to the appropriations granted. In some years this rate has been no more than 63 per cent; in order to remedy this, an attempt has been made to reduce the administrative obstacles to implementation. These attempts have been successful and it may now be considered that utilisation of appropriations is nearly total. (See below and Table 24.)

A) General trend of appropriations for capital expenditure

The capital expenditure budget for education has grown considerably since it has become part of the overall plan(1).

If we take annual capital expenditure attributable solely to education as appearing in the voted budget (Table 17) it will be seen that it has grown, in francs at current prices, from N.Frs. 366.4 million in 1952 to N.Frs. 3,780 million in 1968 which, expressed as an index, means an increase from 100 to 1,031.74. The foregoing concerns programme authorisations; as regards payment approvals, the increase was from Frs. 249.7 to Frs. 3,800 million or, expressed as an index, from 100 to 1,521.75. Table 18 shows the trend from 1952 to 1968, expressed in francs at 1967 prices, i.e. after application of the index of variation in purchasing power of the franc. The increase was from 100 to 975.48 for payment approvals and 100 to 661.37 for programme authorisations, after deducting appropriations for cultural affairs, youth and sport.

Annual trend of payment approvals

The annual trend of programme authorisations covering expenditure to be spread over several years is *ex hypothesi* of little relevance. It is accordingly more rewarding to examine the trend of payment approvals, representing firm annual commitments by the Ministry.

As regards Heading V, i.e. investment carried out directly by the state, the figures show the most rapid increase, the appropriations having grown 18.1 times larger during the period 1952 to 1968. Expressed in francs at constant prices, these appropriations have risen from 100 to 1,164,which is a very large increase since it means that in 1968 real investment carried out by the state was ten times higher than the 1952 figure.

There are many reasons for this growth. In the first place, the 1952-1953 budgets were "wartime" ones, the Korean war making it necessary to devote large sums to national defence and to reduce accordingly the budgets of other ministries, even that of the Ministry of Education which was already making demands based on the population explosion. Secondly, during the period under review the state undertook responsibility for part of the capital expenditure at secondary level and, later on, at primary level, previously assumed by local authorities. To the foregoing must of course be added expenditure linked with the overall increase in enrolments. At the same time, the funds allotted to "student facilities" at universities(2) also increased but at a slower rate than enrolments.

In the capital expenditure budget for 1968, the appropriations for direct investment by the state in higher education represented 53.4 per cent of Heading V and those covering secondary education represented 35.05 per cent.

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1) The rising trend of programme authorisations (initial votes) may be summarised as follows from 1952 onwards:

- Frs. 4,000 million from 1952 to 1956;
- Frs. 8,000 million from 1957 to 1961;
- Frs. 12,000 million from 1962 to 1965;
- Frs. 25,500 million from 1966 to 1970.

These initial votes include appropriations for cultural affairs and youth and sport and assume, moreover, that appropriations have been fully utilised.

2) The expression student facilities covers all the services and facilities of a social nature made available for students to improve their living conditions, in particular as regards residential accommodation, meals, medical and social care.

TABLE 17

Trend by main headings of programme authorisations and payment approvals of the Ministry of Education from 1952 to 1968

- in the total budget
- after deducting appropriations for cultural affairs and youth and sport

(N.Frs. '000 at current prices)

Year	Capital expenditure including appropriations for Cultural Affairs and Youth and Sport					
	V. Investment carried out by the state		VI. State subsidies for investment		Total	
	Programme authorisations	Payment approvals	Programme authorisations	Payment approvals	Programme authorisations	Payment approvals
1952	95,090	118,644	314,910	171,356	410,000	290,000
1953	108,626	147,425	205,382	293,088	314,008(a)	440,513
1954	236,130	177,560	428,680	432,280	664,810	609,840
1955	326,750	250,970	558,850	488,730	885,600	739,700
1956	445,380	221,520	954,360	518,480	1,399,740	740,000
1957	524,770	311,840	975,230	608,160	1,500,000	920,000
1958	646,310	432,650	853,690	817,350	1,500,000	1,250,000
1959	852,490	797,850	647,510	852,750	1,500,000	1,650,000
1960	1,123,450	926,150	766,550	892,850	1,890,000	1,819,000
1961	1,148,770	873,500	841,230	745,800	1,990,000	1,619,300
1962	1,431,600	994,200	838,400	655,800	2,270,000	1,650,000
1963	1,453,090	1,250,000	1,194,210	548,900	2,647,300	1,798,900
1964	1,960,140	1,738,500	1,373,860	857,000	3,334,000	2,595,500
1965	1,826,800	1,547,000	1,723,200	1,183,000	3,550,000	2,730,000
1966	1,722,000	1,369,600	2,003,000	1,530,400	3,725,000	2,900,000
1967	1,667,200	1,675,500	1.938,300	1,683,000	3,605,500	3,358,500
1968	1,699,250	1,740,000	2,080,750	2,060,000	3,780,000	3,800,000
Trend expressed as an index						
1952	100	100	100	100	100	100
1968	1,787	1,466.6	660.7	1,202.2	921.9	1,310.34

a) Programme authorisations proposed in the present Bill amount only to N.Frs. 314,008,000. An amount of N.Frs. 258,360,000 represents the first annual portion under the Bill relating to new programme authorisations.

	Capital expnediture after deducting appropriations for Cultural Affairs and Youth and Sport					
1952	68,560	95,806	297,810	153,906	366,370	249,712
1953	77,587	123,180	197,012	280,020	274,599	403,200
1954	194,260	142,820	421,090	414,450	615,350	557,270
1955	267,350	212,840	528,390	469,900	795,740	682,740
1956	377,800	180,240	908,480	418,980	1,286,280	599,220
1957	471,040	274,189	912,660	581,880	1,383,700	856,069
1958	590,521	389,092	811,660	781,770	1,402,181	1,170,862
1959	790,660	740,060	607,610	799,476	1,398,270	1,539,536
1960	1,108,750	898,150	719,250	848,850	1,828,000	1,747,000
1961	1,127,320	860,500	792,680	705,800	1,920,000	1,566,300
1962	1,416,600	985,200	733,400	598,800	2,150,000	1,584,000
1963	1,438,090	1,247,000	1,064,210	478,900	2,502,300	1,725,900
1964	1,886,140	1,712,000	1,122,860	787,000	3,009,000	2,499,000
1965	1,739,800	1,512,000	1,431,200	1,033,000	3,171,000	2,545,000
1966	1,655,000	1,319,600	1,680,000	1,380,400	3,335,000	2,700,000
1967	1,667,200	1,675,500	1,938,300	1,683,000	3,605,500	3,358,500
1968	1,699,250	1,740,000	2,080,750	2,060,000	3,780,000	3,800,000
Trend expressed as an index						
1952	100	100	100	100	100	100
1968	2,478.5	1,816.2	698.7	1,338.5	1,031.7	1,521.7

Source: Budgets as voted.

TABLE 18

Trend in francs at constant prices of programme authorisations and payment approvals in the budget of the Ministry of Education from 1952 to 1968

(N.Frs. '000 at constant prices)

Year	Heading V Investment carried out by the state		Heading VI State subsidies for investment		Total	
	Programme authorisations	Payment approvals	Programme authorisations	Payment approvals	Programme authorisations	Payment approvals
1952	106,953	149,457	464,584	240,093	571,537	389,550
1953	124,915	198,320	317,189	450,832	442,104	649,152
1954	314,701	231,368	682,166	671,409	996,867	902,777
1955	433,107	344,801	855,992	761,238	1,289,099	1,106,039
1956	585,590	279,372	1,408,144	649,419	1,993,734	928,791
1957	701,850	408,542	1,359,863	867,001	2,061,713	1,275,543
1958	773,582	509,710	1,063,275	1,024,119	1,836,857	1,533,829
1959	988,325	925,075	759,513	999,345	1,747,838	1,924,420
1960	1,341,588	1,086,762	870,292	1,027,108	2,211,880	2,113,870
1961	1,330,238	1,015,390	935,362	832,844	2,265,600	1,848,234
1962	1,600,758	1,113,276	828,742	676,644	2,429,500	1,789,920
1963	1,553,137	1,346,760	1,149,347	517,212	2,702,484	1,863,972
1964	1,999,308	1,814,720	1,190,232	834,220	3,189,540	2,648,940
1965	1,809,392	1,572,480	1,488,448	1,074,320	3,297,840	2,646,800
1966	1,671,550	1,332,796	1,696,800	1,394,204	3,368,350	2,727,000
1967	1,667,200	1,675,500	1,938,300	1,683,000	3,605,500	3,358,500
1968	1,699,250	1,740,000	2,080,750	2,060,000	3,780,000	3,800,000
Trend expressed as an index						
1952	100	100	100	100	100	100
1968	1,588.78	1,164.21	447.87	858	661.37	975.48

Source: Table 17 after application of the conversion factor for francs at 1967 prices (cf. Table 15).

However, these percentages are not entirely representative since they relate to only a single year. In order to give an idea of the general orientation of appropriations and eliminate annual variations, we have grouped together the authorised payments for state expenditure between 1962 and 1968 in the following sectors:

- Administration of academic regions and joint services (Chapters 56.01 and 56.90).
- Higher education (Chapters 56.10 and 56.33).
- Special education establishments (Chapter 56.30).
- Secondary education (Chapters 56.32, 56.33, 56.34, 56.35, 56.36).
- Prefabricated classrooms (Chapter 56.38).
- Student facilities in universities (Chapter 56.70).

We then applied the conversion factor for francs at 1967 prices to the figures supplied to us in order to produce a coherent aggregate of sums appropriated for capital investment.

It should be noted that the content of the above-mentioned budget Chapters has changed somewhat in the course of the seven years under review:

- Chapter 56.30 used to include appropriations for state teacher training colleges (in Alsace) and elementary schools; however, as the amount involved was relatively small it did not appear to us necessary to make a distinction.
- Chapters 56.32 and 56.36 include appropriations for all secondary establishments whether technical or not.
- We have treated as a separate item prefabricated classrooms (Chapter 56.38) whether used for primary or for secondary education.
- The cost of preparing projects and of supervising works of a capital nature (Chapter 56.90) have been added to administrative costs. Since 1966 no distinction is made between these amounts in the budget as voted.
- We have also brought under a single heading all appropriations for higher education, including higher technical education which the budget dealt with separately at certain times.

In Table 19, where the figures are expressed in francs at constant prices, it can be clearly seen that the bulk of appropriations for investment by the state went to secondary education with 46.66 per cent of all appropriations; it should be noted that the annual allocation is on the decrease, having reached Frs. 1,033 million (at 1967 prices) in 1964 whereas it was only in the region of Frs. 600 million in 1967 and 1968. The lack of detailed information in the budgets as voted does not make it possible to distinguish between amounts allotted to technical education and those used for classical or modern education, which is regrettable.

The appropriations for higher education represented 41.29 per cent of appropriations under Heading V and, contrary to what occurred at secondary level, they followed a steadily increasing trend from 1962 to 1968 - except for a slight setback in 1965 - rising from Frs. 285.9 million to Frs. 930 million at 1967 prices.

The third largest heading by size of appropriations is that of student facilities at university, which accounted for 7.49 per cent of appropriations over the period 1962-1968. After having risen slowly between 1962 and 1967, the amount allotted represented in 1968 only two-thirds of that made available in 1967. It should also be noted that the amount allotted to these facilities did not follow the same trend as appropriations for higher education. From 1962 to 1968 the ratio between student facilities and higher education was as follows:

1962: 14.07 per cent;
1963: 16.37 per cent;
1964: 12.04 per cent;
1965: 19.51 per cent;
1966: 30.35 per cent;
1967: 21.80 per cent;
1968: 12.90 per cent.

The reduction in 1968 as compared with 1967 is striking; it would appear to be explained partly by a reduction in costs due to industrialised building and partly by greater speed in construction, thus reducing the amounts required to compensate for price rises. Nevertheless, the lag, as compared with the forecasts contained in the Plan, is growing in this sector.

The other headings shown in the table represent a variable percentage, between 1 and 2 per cent, of direct appropriations for investment. The apparently rapid rise in the amounts allocated to special education is explained by the fact that such appropriations were practically non-existent ten years ago. But in this field there is an enormous amount of catching up to be done.

The figures for administration and joint services remain relatively stable.

The increase in appropriations under Heading VI (State Subsidies for Investment) has been slower than for those under Heading V. These appropriations rose from index 100 to index 1,338.5 during the period 1952-1968 (or from 100 to 858 if we apply the conversion factor for francs at 1967 prices). All sectors have received increased funds but during the last six years secondary education has received the largest share: from 1962 to 1968 subsidies (in francs at current prices) granted for this purpose have increased tenfold. During the same period subsidies granted to the National Centre for Scientific Research have barely doubled. For 1968, grants to secondary education represented 69 per cent of all grants under Heading VI.

If the total sums allotted to each sector from 1962 to 1968, expressed in francs at 1967 values, are added together it will be seen that secondary education - classical, modern and technical - received 55.52 per cent of appropriations. These grants went to municipal and communal establishments. The grants for primary education represent 34.23 per cent of the total of Heading VI. During the same period the National Centre for Scientific Research received only 7.59 per cent of total grants (Table 20).

It will be seen from the two preceding tables that funds provided either directly or in the form of subsidies for secondary education represented 51 per cent of all appropriations for capital expenditure.

The figures quoted above show the main trends but must be regarded as giving only an order of magnitude, because the budgets as voted are not drawn up in sufficient detail to make it possible to pick out, for instance, expenditure on scientific research included in appropriations for higher education, or appropriations for secondary technical education included with those for classical and modern establishments. Moreover, these figures show only state participation and, in particular, do not include the share borne by regional and local authorities which play an essential part in regard to both primary and secondary education.

TABLE 19

Investment by the state : trend of payment approvals from 1962 to 1968 (Heading V)

Year		Administration and joint services	Higher education	Special education	Secondary education	Pre-fabricated classrooms	Student facilities	Total
In million francs at current prices								
1962		15,500	253,000	5,600	635,500	40,000	35,600	985,200
1963		21,000	458,000	10,000	637,000	46,000	75,000	1,247,000
1964		25,000	598,000	12,000	975,000	30,000	72,000	1,712,000
1965		17,000	615,000	10,000	715,000	35,000	120,000	1,512,000
1966		24,000	560,000	20,000	545,600	-	170,000	1,319,600
1967		35,000	825,500	35,000	600,000	-	180,000	1,675,500
1968		35,000	930,000	45,000	610,000	-	120,000	1,740,000
In million francs at constant prices								
	Conversion factor							
1962	1.13	17,515	285,890	6,328	718,115	45,200	40,228	1,113,276
1963	1.08	22,680	494,640	10,800	687,960	49,680	81,000	1,346,760
1964	1.06	26,500	633,880	12,720	1,033,500	31,800	76,320	1,814,720
1965	1.04	17,680	639,600	10,400	743,600	36,400	124,800	1,572,480
1966	1.01	24,240	565,600	20,200	551,056	-	171,700	1,332,796
1967	1.00	35,000	825,500	35,000	600,000	-	180,000	1,675,500
1968	-	35,000	930,000	45,000	610,000	-	120,000	1,740,000
Total		178,615	4,375,110	140,448	4,944,231	163,080	794,048	10,595,532
%		1.69%	41.29%	1.33%	46.66%	1.54%	7.49%	100%

Source: Budgets as voted.

TABLE 20

State subsidies for investment

Trend of payment approvals from 1962 to 1968 (Heading VI)

Year		Research	Teacher training and special schools	Primary education	Secondary education	Libraries	Medical installations	General overheads	Total
In million francs at current prices									
1962		85,000	22,500	359,000	127,400	1,400	2,900	600	598,800
1963		40,000	11,200	281,000	140,000	400	1,000	5,300	478,900
1964		40,000	34,000	440,000	260,000	3,000	10,000	-	787,000
1965		70,000	7,000	460,000	490,000	3,000	3,000	-	1,033,000
1966		90,000	10,000	353,000	915,000	-	12,400	-	1,380,400
1967		120,000	15,000	380,000	1,150,000	-	18,000	-	1,683,000
1968		160,000	30,000	430,000	1,420,000	-	20,000	-	2,060,000
In million francs at constant prices									
	Conversion factor								
1962	1.13	96,050	25,425	405,670	143,962	1,582	3,277	678	676,644
1963	1.08	43,200	12,096	303,480	151,200	432	1,080	5,724	517,212
1964	1.06	42,400	36,040	466,400	275,600	3,180	10,600	-	834,220
1965	1.04	72,800	7,280	478,400	509,600	3,120	3,120	-	1,074,320
1966	1.01	90,900	10,100	356,536	924,150	-	12,524	-	1,394,204
1967	1.00	120,000	15,000	380,000	1,150,000	-	18,000	-	1,683,000
1968	-	160,000	30,000	430,000	1,420,000	-	20,000	-	2,060,000
Total		625,350	135,941	2,820,480	4,574,512	8,314	68,601	6,402	8,239,600
%		7.59	1.65	34.23	55.52	0.10	0.83	0.08	100

Source: Budgets as voted.

TABLE 21

Variations in percentage of the amounts of payment approvals under Headings V and VI

Year	Heading V: Investment carried out by the state	Heading VI: State subsidies for investment
1952	38.36	61.64
1953	30.55	69.45
1954	25.62	74.38
1955	31.17	68.83
1956	30.07	69.93
1957	32.02	67.98
1958	33.23	66.77
1959	48.07	51.93
1960	51.41	48.59
1961	54.93	45.07
1962	62.20	37.80
1963	72.26	27.74
1964	68.51	31.49
1965	59.42	40.58
1966	48.87	51.13
1967	49.88	50.12
1968	45.78	54.22

Source: Budgets as voted.

TABLE 22

Trend of programme authorisations by education level in francs at current prices from 1957 to 1968(1)

(in millions N.Frs.)

Year	Higher educa-tion	Univer-sity student facili-ties	Classical and modern lycées	Technical lycées	CET	CES CEG	Mobile school buildings	Teacher training colleges	Special schools	Primary and pre-primary education	Research	Adminis-tration and joint services	Total
1957	115.9	29.9	247.3		281.6	38.0	-	45.0	11.6	528.9	37.0	5.3	1340.5
1958	217.5	39.2	310.0		325.5	11.9	-	25.3	7.3	396.5	49.5	4.5	1387.2
1959	215.6	46.6	310.0		320.0	15.5	20	34.5	19.5	333.5	54.5	12.5	1382.2
1960	395.2	57.8	407.0		416.0	12.0	17	35.0	17.5	367.5	90.0	13.0	1828.0
1961	400.0	64.5	410.0		424.0	12.5	18	20.6	21.0	476.9	60.0	12.5	1920.0
1962	475.0	105.0	437.0		503.0	110.0	40	12.2	12.8	325.0	150.0	35.0	2205.0
1963	600.8	157.0		1034.5		173.0	38	15.0	15.0	368.0	153.0	43.0	2597.3
1964	716.8	250.9		1119.0		242.3	30	13.7	24.7	354.6	197.0	60.0	3009.0
1965	709.8	251.2		1178.0		415.0	37	15.5	23.0	325.5	180.0	36.0	3171.0
1966	730.0	170.0		1145.0		585.0	30	4.5	39.0	376.5	225.0	30.0	3335.0
1967	794.0	154.0		1010.0		803.0	20	9.5	80.0	425.0	265.0	45.0	3605.5
1968	890.7	149.3		783.0		1022.0	18	10.0	95.0	477.0	295.0	40.0	3780.0

Source: Capital Investment Budget of the Ministry of Education, Budget Department.

1) Until 1963, inclusively, programme authorisations for sports installations for education establishments were not separated from allocations for school and university installations in the narrow sense.

TABLE 23

Trend of programme approvals by education level expressed in francs at constant prices, from 1957 to 1968(1)

(in thousands N.Frs. at constant prices)

Year	Conversion factor for francs at constant prices	Higher education	University student facilities	Classical and modern lycées	Technical lycées	CET	CES and CEG	Mobile classrooms	Teacher training colleges	Special schools	Primary and pre-primary education	Research	Adminis-tration and joint services	Total
1957	1.49	172,691	44,551	368,477		419,584	56,620	-	67,050	17,284	788,061	55,130	7,897	1,997,345
1958	1.31	284,925	51,352	406,100		426,405	15,589		33,143	9,563	519,415	64,845	5,895	1,817,232
1959	1.25	269,500	58,250	387,500		400,000	19,375	25,000	43.125	24,375	416,875	68,125	15,625	1,727,750
1960	1.21	478,192	69,938	492,470		503,360	14,520	20,570	42,350	21,175	444,675	108,900	15,730	2,211,880
1961	1.18	472,000	76,110	483,800		500,390	14,750	21,240	24,308	24,780	562,742	70,800	14,750	2,265,600
1962	1.13	536,750	118,650	493,810		568,390	124,300	45,200	13,786	14,464	367,250	169,500	39,550	2,491,650
1963	1.08	648,864	169,560		1,117,260		186,840	41,040	16,200	16,200	397,440	165,240	46,440	2,805,084
1964	1.06	759,808	265,954		1,186,140		256,838	31,800	14,522	26,182	375,876	208,820	63,600	3,189,540
1965	1.04	738,192	261,248		1,225,120		431,600	38,480	16,120	23,920	338,520	187,200	37,440	3,297,840
1966	1.01	737,300	171,700		1,156,450		590,850	30,300	4,545	39,390	380,265	227,250	30,300	3,368,350
1967	1.00	794,000	154,000		1,010,000		803,000	20,000	9,500	80,000	425,000	265,000	45,000	3,605,500
1968	-	890,700	149,300		783,000		1,022,000	18,000	10,000	95,000	477,000	295,000	40,000	3,780,000
TOTAL		6,782.922	1,590.613	(2,632,157) (8.08)	(6,477,970) 11,928,186(2) (19.89)	(2,818,059) (8.66)	3,536,282	291,630	294,649	392,333	5.493.119	1,885.810	362,227	32,557,777
Percentages		20.83	4.89		36.63(2)		10.86	0.90	0.91	1.21	16.87	5.79	1.11	100

Source: See Table 22.

1) Up to 1963, inclusively, programme approvals for sports installations in education establishments were not separated from appropriations for school and university installations in the narrow sense.

2) Total of the three columns "Classical and modern lycées", "Technical lycées", "CET".

TABLE 24

Implementation of the Fourth Plan

programme approvals for 1962, 1963, 1964 and 1965

(in millions Frs.)

Description	Fourth Plan	1962	1963	1964	1965	Frozen programme authorisations	Total 1962-65	Plan implementation as a percentage	Rate of implementation after applying conversion factor(1)
Research	735	150.0	153.0	197.0	180.0	-	680.0	92.5%	87.99%
Higher and technical education	3,421	582.4	756.9	908.9	1,002.0	207.4	3,042.6	89.0%	84.47%
Secondary education	5,525	1,072.05	1,267.5	1,507.0	1,767.0	54.8	5,558.7	100.5%	95.44%
Primary education	1,600	407.95	490.3	484.6	396.0	35.2	1,745.6	109.0%	103.95%
Youth and sports (Act defining programme)	555	118.0	145.0	133.0	151.0	-	547.0	98.5%	93.75%
Other services	164	24.5	43.0	73.0	43.5	29.3	155.8	95.0%	89.72%
Totals	12,000	2,354.9	2,855.7	3,303.5	3,539.5	326.7	11,729.7	97.7%	92.83%

Source: Report No. 1588 to the National Assembly.

1) Index of variation in purchasing power of the franc.

The relatively large share of Headings V and VI respectively, which is brought out in Table 21, between 1952 and 1968 is illustrative of government policy in regard to capital investment in schools and universities. In 1952 direct investment by the state represented 38.36 per cent of appropriations for capital expenditure whilst subsidies amounted to 61.64 per cent. These percentages became inverted during the period under review and in 1963 direct investment represented 72.26 per cent as against subsidies of 27.76 per cent. For the last four years investment has, on average, accounted for about 50 per cent of appropriations for capital expenditure.

B) General trend of programme authorisations

When looked at on a yearly basis, the figures for programme authorisations obviously appear less regular than those for payment approvals, which fall more strictly within budgetary and administrative regulations. It is natural that to the extent they represent commitments which may take several years to carry out, the approvals granted in some years should be much larger than others. Consequently it is necessary to analyse programme authorisations solely by level of education, and over periods in excess of one year.

Table 22 shows the trend in programme authorisations from 1957 to 1968 by education level or category of use. Conversion into francs at constant 1967 prices gives a more accurate view of the trend and makes it possible to find the total amount of appropriations for capital investment over the whole period (Table 23).

So far as the trend is concerned, CESs and CEGs have enjoyed a very rapid rise in their appropriations, this being explained by the institution of reforms: this Chapter was even larger in 1968 and accounted for 27 per cent of programme authorisations. The second Chapter as regards rate of increase, is that for higher education which accounted for 23.6 per cent of programme approvals in the 1968 budget.

The most striking fact brought out by expressing the figures in francs at constant prices is that throughout the period from 1957 to 1968 the level of programme authorisations for secondary education - classical, modern and technical - excluding appropriations for the CESs and CEGs, has remained roughly the same. These authorisations amounted on an average to Frs. 1,000 million at 1967 prices from 1960 to 1967. On the other hand, the 1968 figure was appreciably lower. For the whole of secondary education, programme authorisations accounted for 47.5 per cent of the total from 1957 to 1968.

As regards primary and pre-primary education, programme authorisations will be seen to have fallen between 1957 and 1965, then to have risen slightly since the latter date. In practice it would be premature, as already stated, to draw conclusions from the trend of this particular series since the extension of CESs and CEGs has deprived the primary terminal classes of a fair number of pupils.

The other major chapters are university student facilities and scientific research; the remarks made above in regard to payment approvals also apply to these.

C) Rate of implementation of the programmes

It is nevertheless necessary to point out that programme authorisations and payment approvals are only, so to speak, investment decisions and their translation into reality may come up against many difficulties which stand in the way of implementation of the programmes. These difficulties are mainly the result of lack of available land, overlengthy procedure and construction enterprises lacking suitable equipment.

Thus, for the period from 1952 to 1962 the percentage of utilisation of authorised payments was as follows:

1952	:	88 per cent
1953	:	79 per cent
1954	:	76 per cent
1955	:	63 per cent
1956	:	65 per cent
1957	:	81 per cent
1958	:	84 per cent
1959	:	80 per cent
1960	:	63 per cent
1961	:	63 per cent

Since 1962, a simplified procedure and industrialised building - with consequent speed-up in implementation of programmes - have had favourable effects on rates of project completion.

Table 24 gives an average completion rate of 97.7 per cent for the Fourth Plan. For primary education considered on its own, the rate of implementation of programme authorisations has even been higher than was forecast, since it amounted to 109 per cent. The greatest backlog is to be found in higher education, with an implementation rate of 89 per cent.

Similar calculations have been made for the first four years of implementation of the Fifth Plan. From these it appears that, inclusive of appropriations for 1959, the rate of implementation will be 75.2 per cent, representing a short-fall of 5 per cent as compared with the normal completion timetable. This means that if the ministry intends to meet the Plan's financial targets an additional effort will have to be made during the last year in which the Plan is due to be implemented.

These two tables, which appear to show fairly satisfactory results, are subject to one important qualification. The amounts appropriated have been expressed in francs at current prices, which means that as a result of price increases the physical results achieved at the end of the Plan fall short of the targets laid down even though the appropriations provided have been fully utilised. Accordingly, if we apply the appropriate conversion factors, the effective rate of implementation of the Fourth Plan becomes reduced from 97.7 per cent to 92.83 per cent. As a result, all sectors except primary lag behind forecasts and this lag can be as large as 15 per cent.

It nevertheless remains true that average implementation has been improved as compared with the years preceding the Fourth Plan.

As regards the Fifth Plan, at the end of the fourth year of implementation the rate of completion would drop from 75.2 per cent to 69 per cent. In these circumstances the final budget for the period covered by the Plan - i.e. that for 1970 - will have to be twice as large as the average of the four preceding budgets in order to catch up the lost ground. In some fields it appears evident that this will not be possible: this is the case for "university student facilities", for which the corrected rate of implementation is 37 per cent.

Calculations of this kind should of course be accepted with some reserve, since the conversion factor chosen may not entirely compensate for errors. Moreover it is difficult to quantify the amount of investment carried out due to the reduced costs ensuing from industrialised building methods; this reduction is considered to amount to about 10 per cent of total cost.

It is only by examining the stage of implementation of the physical targets that the implementation of the Plan can be verified. Thus for the Fifth Plan, as regards primary and elementary education, the rate of implementation is at present estimated to be 94 per cent (instead of 57 per cent, the corrected figure), as regards CESs and CEGs, 64 per cent (instead of a corrected figure of 62 per cent), as regards CETs, 104 per cent, second cycle secondary education, 75 per cent and university, 75 per cent. Here again a reservation must be made: the rate of implementation shows the amount of work carried out, whether it be concerned with genuine creation of new pupil places or with new places to replace old ones, so that real increase is less than the total building figure. For instance in the first cycle of secondary education, 25 per cent of new places have on average been used to replace existing ones.

D) Conclusion

Although the role of the commission on capital expenditure for schools, universities and sport is a limited one, the inclusion of school and university capital investment in the planning system has certainly provided machinery which has assisted the expansion of capital investment already noted. In particular this planning of capital expenditure has made it possible to assess medium-term needs and to determine annual budgetary expenditure more readily.

A further advantage is better utilisation of the appropriations voted, not only through simplification of procedure, which makes for more rapid spending, but also through resort to industrialised building. In 1966, industrialised building represented about one quarter of all building and covered mainly CEGs, CESs, CETs and students' lodgings. The basic advantages of industrialised building lie in speedy erection and, sometimes, reduced cost.

Although attention to the building problem has often produced positive results, there still remains the problem of expenditure on maintenance and repair of educational establishments. The Cour des Comptes has placed on record that "cases of neglect are so frequent that they have almost become the rule".

"Habitual neglect is explained by the complex nature of the rule governing determination of the administrative department responsible for carrying out work according to its nature, according to the public body in whom ownership is vested and, where this is the state, according to the ministry responsible: all these distinctions lead to uncertainties.

"The establishment concerned is liable for keeping the premises in tenantable condition, for which purpose an appropriation - generally of small amount - is contained in its budget. Major upkeep is the responsibility of the owner and repairs, under the Decree of 27th November, 1962, fall on the state if the buildings belong to it; where they do not, repairs are shared with the state and the communes.

"But here as elsewhere, the distinction between major upkeep and repairs is an uncertain one. The division of ownership rights between the state and the commune has no foundation in logic and leaves a doubtful area in the case of community school projects undertaken jointly by the state and a given commune before the 1962 Decree applied. Finally as regards expenditure falling on the state, although the Ministry of Cultural Affairs remains competent in regard to repairs to buildings classified as civil buildings, the appropriation provided for the purpose nevertheless disappeared from the budget in 1964.

"The consequences of the foregoing are twofold: the decay of old buildings brings nearer the date when their replacement by new buildings will be the cheapest solution, and the cost of repairs made heavier by neglect becomes chargeable against appropriations for 'doing up' old buildings including making new additions."

Although the problem has been raised it has not yet been entirely solved and appropriations for maintenance are not yet the subject of individual planning. However it should be noted that amounts allotted to départemental education funds (Fonds Barangé) or to the public authorities' education fund provide a source of finance for this type of expenditure as regards primary establishments and, since 1965, for first cycle secondary establishments. Repairs to school buildings are treated as priority expenditure for the utilisation of these funds.

Since 1967, a chapter (35-31) has been inserted for financing adaptation, maintenance and major repairs; however, the amount allotted remains insufficient.

TABLE 25

Implementation of the Fifth Plan

Sums allotted for education installations and equipment in 1966, 1967, 1968 and 1969 compared with the forecasts in the Plan

(not including sports installations and research)

(in millions Frs.)

Description	Total Fifth Plan	Allotted in 1966	Allotted in 1967	Allotted in 1968	Allotted in 1969	Rate of implementation as a percentage	Rate of implementation after applying conversion factor(2)
Pre-primary and primary	2,527.0	330.5	372.0	415.0	437.5	61.5	57
First cycle	5,550.0	762.0	874.0	1,005.0	1,118.6	67.7	62
Long second cycle	1,081.2	460.0	494.0	341.0	239.0	140.7	118
Short second cycle	1,479.1	447.0	350.0	360.0	414.9	107.2	108
Handicapped children	765.0	67.5	145.0	178.0	204(1)	78.8	70
Higher education	4,724.0	732.5	788.2	873.7	1,092.5	74.5	68
Boarding and other facilities	1,284.0	170.0	145.6	133.8	113.0	41.6	37
Supplementary equipment	355.0	65.0	77.0	82.0	78.5	85.2	77
Overseas Départements	495.0	75.5	94.7	96.5	101.5	74.4	68
TOTAL	18,260.3	3,110.0	3,340.5	3,485.0	3,799.5	75.2	69

Source: Report No. 359 to the National Assembly.

1) Allowing for emergency programme.

2) Index of variation in purchasing power of the franc.

Chapter III

ORDINARY EXPENDITURE OF THE MINISTRY OF EDUCATION SINCE 1952

A) Introduction

The essential feature of the appropriations for ordinary expenditure, as compared with those for capital investment, is without doubt the fact that they are completely exhausted during each budget year, even as regards the portion representing expenditure on equipment. In addition, the general difficulty arising in the sphere of education owing to the fact that the calendar year and the school year do not coincide is here increased by that of accurately forecasting the enrolments in the first quarter of the calendar year, i.e. the beginning of the new school year; yet it is those enrolments which determine the greater part of operating expenditure.

During the period 1952-1968 which we have chosen, the content of the ordinary education budget has undergone certain changes. The appropriations for ordinary expenditure on "cultural affairs" and "youth and sport" have been included in a separate budget in 1960 and 1967 respectively, and this has produced an appreciable reduction in the education budget.

On the other hand the ordinary budget contains several new chapters, the most important of which are:

- "school transport" (Chapter 43.35) since 1961, which was the result of closing down classes with too few pupils, of instituting the CEGs and CESs and of the extension of compulsory schooling;

- "relations between the state and private education establishments" (Chapter 43.34) since 1961, pursuant to the Act of 31st December, 1959, known as the Debré Act, which made it possible for private education establishments to enter into a variety of contracts with the state under which the latter shares in the running of these establishments;

- "education allowance" (Chapter 43.36) since 1966, which is an allowance made by the state for each pupil in pre-school, primary and first cycle secondary education (from 6th to 3rd class inclusive), whether pupils are in state or private schools. Prior to 1966, this allowance was covered by a "special treasury account".

In order to make possible a coherent comparison of ordinary expenditure during the period under review, we have not taken the exact figures as appearing in the voted budgets of the Ministry of Education from 1962 to 1968. We have excluded expenditure not specifically concerned with education: expenditure on cultural affairs and youth and sports. As regards the latter this naturally means excluding from the Ministry of

Education budget, which is their proper place, physical education and sports in schools and universities and training of physical education teachers. For the same purpose of producing coherent figures we have ignored the education allowance which has appeared in the budget only during the last three years and which is a transfer from another item in the state budget. This will be analysed separately.

On the other hand, we have included new financial responsibilities undertaken by the Ministry of Education: school transport and relations between the state and private education establishments.

In the paragraphs that follow we will first examine the main headings and principal chapters of operating expenditure and the changes that have occurred therein, and we will then consider trends in the same items of expenditure presented as a functional budget, i.e. by sectors or levels of education.

B) General trend of operating expenditure from 1952 to 1968

The ordinary expenditure of the Ministry of Education increased from index 100 to index 880.5 during the 16 years considered. The various components of this budget increased respectively:

- from 100 to 782.8 for "staff and social security contributions" (501.78 in francs at constant prices);
- from 100 to 1,150.7 for "equipment, operation and other" (737.6 in francs at constant prices);
- from 100 to 1,522.4 for "grants and subsidies" (1,006 in francs at constant prices). (See Table 26).

If increases attributable to the fall in purchasing power of money are excluded, the increase is from 100 to 564.4 for the whole of operating expenditure relating to education. The rate of increase is thus slightly less marked than for the Ministry of Education budget as a whole, but greater than the increase in the general budget. During the period under review the respective shares of the three groups of expenditure in the yearly budget have evolved. Thus the heading "staff and social security payments", which represented 82.1 per cent of the ordinary budget in 1952, accounted for 73 per cent in 1968. The group "equipment, operation and other" increased its share from 9.2 to 12 per cent and "grants and subsidies" have almost doubled, rising from 8.6 to 15 per cent (Table 27).

In the paragraphs that follow we shall examine each of these three headings of expenditure in turn; we will then consider ordinary expenditure classified by sector and level of education in a functional budget, and, finally, the trend of the education grant.

C) Staff and social security payments (Heading III - Parts 1 and 3)

From 1952 to 1968 expenditure on staff, i.e. salaries, miscellaneous grants and allowances, and benefits and contributions connected with social security, family allowances and pensions, increased from index 100 to index 782.8. Expressed in francs at constant prices, this increase was from 100 to 501.8. During the same period the number of posts increased from 254,748 to 625,960, i.e. from index 100 to index 245.7 (Table 28).

TABLE 26

Trend of ordinary expenditure of the Ministry of Education as per the budget voted

(after deducting expenditure on "Cultural Affairs", "Youth and Sport" and "Education Grant")

(N.Frs. '000)

Year	Budget as voted before deduction	After deduction					Conversion factor for francs at 1967 prices	Budget at 1967 prices after deduction	Index (Base 1952=100) after deduction
		Staff and Social Security contributions (1)	Equipment operating and various(2)	Grants and subsidies(3)	Total voted budget	Index (Base 1952 = 100)			
1952	1,995,305	1,523,987	170,217	160,249	1,854,453	100.0	1.56	2,892,947	100.00
1953	2,342,370	1,837,147	183,462	158,410	2,179,019	117.5	1.61	3,508,221	121.24
1954	2,342,452	1,806,167	195,263	177,413	2,178,843	117.5	1.62	3,529,726	121.99
1955	2,501,857	1,904,104	214,907	198,945	2,317,956	125.0	1.62	3,755,089	129.78
1956	2,922,644	2,259,597	250,568	213,734	2,723,899	146.9	1.55	5,222,043	145.91
1957	3,305,236	2,560,034	295,608	233,652	3,089,294	166.6	1.49	4,603,048	159.08
1958	3,579,478	2,738,316	330,747	285,995	3,355,058	180.9	1.31	4,395,126	151.90
1959	4,810,710	3,803,175	398,702	325,401	4,527,278	244.1	1.25	5,659,098	195.58
1960	5,375,167	4,264,097	514,833	423,817	5,202,747	280.6	1.21	6,295,324	217.57
1961	6,304,701	4,767,350	629,922	709,109	6,106,381	329.3	1.18	7,205,530	249.02
1962	7,450,241	5,345,609	748,245	1,117,517	7,211,371	388.9	1.13	8,148,849	281.62
1963	9,036,967	6,565,852	967,062	1,225,353	8,758,267	472.3	1.08	9,458,928	326.90
1964	11,129,943	7,978,845	1,219,865	1,557,993	10,756,703	580.0	1.06	11,402,105	394.06
1965	12,963,114	9,219,108	1,368,673	1,953,213	12,540,994	676.3	1.04	13,042,634	450.75
1966	14,538,386	10,056,034	1,480,414	2,137,846	13,674,294	737.4	1.01	13,811,037	477.31
1967	15,184,820	10,845,590	1,709,649	2,251,944	14,807,183	798.5	1.00	14,807,183	511.74
1968	16,719,499	11,929,464	1,958,640	2,439,658	16,327,762	880.5	-	16,327,762	564.39

Source: Ministry of Education Budgets as voted.

1) See Table 28, at 1967 prices.

2) See Table 33, at 1967 prices.

3) See Table 38, at 1967 prices.

TABLE 27

Percentage breakdown of ordinary expenditure after deducting expenditure on "Cultural Affairs", "Youth and Sport" and "Education Grant"

(Total = 100)

Year	Staff and social security payments	Equipment operation and various	Grants and subsidies
1952	82.1	9.2	8.6
1953	84.3	8.4	7.3
1954	82.9	9.0	8.1
1955	82.1	9.3	8.6
1956	82.9	9.2	7.9
1957	82.8	9.6	7.6
1958	81.6	9.9	8.5
1959	84.0	8.8	7.2
1960	82.0	9.9	8.1
1961	78.1	10.3	11.6
1962	74.1	10.4	15.5
1963	74.9	11.1	14.0
1964	74.1	11.4	14.5
1965	73.5	10.9	15.6
1966	73.5	10.9	15.6
1967	73.2	11.6	15.2
1968	73.0	12.0	15.0

Source: Budgets as voted.

TABLE 28

Staff and social security payments
Trend of appropriations and of posts

Year	Staff and social security payments	Conversion factor for francs at 1967 prices	Staff and social security payments in francs at 1967 prices	Number of posts in state education
1952	1,523,987	1.56	2,377,420	254,748
1953	1,837,147	1.61	2,957,807	263,079
1954	1,806,167	1.62	2,925,991	273,153
1955	1,904,104	1.62	3,084,648	296,282
1956	2,259,597	1.55	3,502,375	317,762
1957	2,560,034	1.49	3,814,451	338,029
1958	2,738,316	1.31	3,587,194	367,118
1959	3,803,175	1.25	4,753,969	396,442
1960	4,264,097	1.21	5,159,557	417,375
1961	4,767,350	1.18	5,625,473	435,976
1962	5,345,609	1.13	6,040,538	462,954
1963	6,565,852	1.08	7,091,120	498,181
1964	7,978,845	1.06	8,457,575	528,130
1965	9,219,108	1.04	9,587,872	548,332
1966	10,056,034	1.01	10,156,594	569,711
1967	10,845,590	1.00	10,845,590	594,342
1968	11,929,464	-	11,929,464	625,960

Trend expressed as an index

Year	Staff and social security payments	Conversion factor for francs at 1967 prices	Staff and social security payments in francs at 1967 prices	Number of posts in state education
1952	100		100	100
1968	782.8		501.78	245.71

Source: See Table 26.

TABLE 29

Annual basic salary (in new francs) at start and end of career of faculty professors holding a chair, teachers in long secondary education holding agrégation, licence or certificate and primary school teachers

Year	Higher education: faculty professors		Long secondary education: teachers holding agrégation		Long secondary education: teachers holding licence or certificate		Primary education: primary teachers	
	Professors holding a chair	Professors holding a chair (exceptional grade)	Start of career	End of career(1)	Start of career	End of career(2)	Start of career	End of career (3)
1953	12,170	13,380	8,680		6,790		4,680	
-	-	-	-				-	
1962	31.981		10,633	27,218	8,165	20,540	5,915	12,375
1963	35,876	47,482	11,375	29,108	8,732	21,984	6,320	13,214
1964	40,054	53,012	12,700	32,498	9,750	25,528	7,782	16,249
1965	41,880	55,428	13,279	33,980	11,535	26,692	8,137	16,998
1966	41,880	55,430	13,279	33,980	11,535	26,692	8,137	16,990
1967	43,557	57,648	13,810	35,340	11,997	27,761	8,463	17,670
1968	45,300	59,955	14,369	36,769	12,482	28,883	8,805	18,384
Average 1968			25,593		20,707		13,595	
Trend expressed as an index								
1953	100	100	100		100		100	
1968	372	448	294.8		304.9		290.4	
1962	100	100	100	100	100	100	100	100
1968	141.6	187.5	135.1	135	152.8	140.6	148.8	148.5

Source: Budgets as voted.

1) After a maximum of 30 years (26 years on average).
2) After a maximum of 30 years (26 years on average).
3) After a maximum of 28 years (24 years on average).

It can thus be seen that expenditure has increased far more rapidly than the posts themselves: at three times the rate in francs at current prices, twice the rate in francs at constant prices. This increase is to some extent linked with the type of post: e.g. in higher education, which requires the highest qualifications, the number of posts has increased 7.23 times as against 2.25 times for secondary education. But it is mainly the increased remuneration granted to teachers which explains the higher rate of increase of expenditure, pay rises having moreover been higher in the highest grades, namely professors in the "exceptional" class holding a faculty chair (Tables 29 and 30). Expressed in francs at current prices the rise in net remuneration between 1953 and 1968 was as follows:

- primary teachers	from 1 to 2.9
- teachers in long secondary education holding "licence" or certificate	from 1 to 3
- teachers in long secondary education holding "agrégation"	from 1 to 2.9
- professors in university faculties (exceptional grades)	from 1 to 4.5
- professors in university faculties (ordinary grades)	from 1 to 3.7

In francs at constant prices, the trend was as follows:

- primary teachers	from 1 to 1.8
- teachers in long secondary education holding "licence" or certificate	from 1 to 1.89
- teachers in long secondary education holding "agrégation"	from 1 to 1.83
- professors in university faculties (exceptional grades)	from 1 to 2.78
- professors in university faculties (ordinary grades)	from 1 to 2.31

Thus it will be seen that the real purchasing power of members of the teaching profession has almost doubled for primary teachers and teachers in long secondary education holding a certificate, licence or agrégation. For professors in university faculties it has increased 2.31 and 2.78 times. As regards this last category, it is necessary to state that we have not used salaries at the start and end of career, as for other teachers, and also that during the period under review the terms of service of faculty professors holding a chair were altered. In 1953, a distinction was made between professors holding a chair in Paris (salary index 650-750, annual average salary N.Frs. 13,880) and in the Départements (salary index 550-700, average annual salary N.Frs. 12,170). At the present time this distinction no longer exists, but among professors holding a chair there is exceptional grade: annual average salary for the former is N.Frs. 45,300 and the latter N.Frs. 59,955. In order to measure the increase in salary we have compared remuneration of professors holding a chair (exceptional grade) in 1968 with that of professors serving in Paris in 1953, and professors holding a chair in 1968 with that of professors serving in the Départements in 1953.

As regards secondary teachers holding a "licence" or certificate, the desire may be noted to raise commencing salaries, in accordance with the Decrees of 1st and 11th August, 1964; in 1962 commencing salaries were 39.7 per cent of end-of-career salaries; in 1968 the percentage was 43.2. For the other categories it can be said that since 1962 the trends of remuneration at start and end of career have been parallel.

It should be added that the figures given in the table represent only part of teachers' remuneration, namely the basic salary. To this salary are added a residence allowance (which frequently takes the form of housing accommodation for primary teachers), a special lump sum allowance for teaching staff and, where applicable, various special awards. In addition, teachers are entitled to family allowances, social security benefits, sickness insurance and the special pension system for civil servants.

TABLE 30

Trend in the relationship between salaries at start and end of career of professors, teachers holding agrégation, licence or certificate and primary teachers, and in average salaries of professors holding a chair (ordinary and exceptional grades)

(In per cent)

Year	Faculty Professors	Teachers holding agrégation	Teachers holding licence or certificate	Primary Teachers
1962	-	39.06	39.75	47.79
1963	75.55	39.07	39.72	47.82
1964	75.55	39.08	38.19	47.89
1965	75.55	39.08	43.21	47.89
1966	75.55	39.08	43.21	47.89
1967	75.55	39.08	43.21	47.89
1968	75.55	39.08	43.21	47.89

It is also noteworthy that under the French system the higher a teacher's qualifications, the fewer hours teaching he is required to give and the higher his salary scale. There are also differences in salary according to the subject taught: this applies, for instance, to teachers of "special" subjects (music, drawing, physical education). Table 29 must therefore be regarded as providing an illustration but one should avoid systematising in drawing conclusions from it.

A comparison of teachers' salaries with those of the private sector or those of other government officials enjoying different benefits and allowances is therefore difficult; in addition, psychological factors are involved and these will be studied in another chapter.

On the other hand, we think it may be useful to set out the situation regarding teachers in private education.

At the outset, of course, salaries in private education were determined by the individual contract between the head of the establishment and the teacher; in Roman Catholic schools a scale was laid down at Diocesan level (the diocese being a religious administrative structure corresponding approximately to a Département) the rise in the cost of education and the less marked rise in resources had the main consequence of depreciating teachers' salaries. Thus in 1959(1) starting salaries in primary education were between about AF. 20,000 and AF. 40,000 at current prices, per month, payable for twelve months. End-of-career salaries were about AF . 45,000 a month. In secondary education, salaries were fixed unilaterally by each establishment's "syndicat", the teachers merely proposing minimum levels. At the time, salaries were between AF . 40,000 and AF. 75,000 a month, approximately.

The state decided to provide aid in order to avoid the teachers deserting private schools, and private education, which caters for 20 to 25 per cent of pupils enrolled, being obliged to reduce the quality of the service it provides. It fell to the Barangé Act (28th September, 1951) and the Debré Act (31st December, 1959) to organise such aid, with the main object of improving salaries of the teaching staff in private establishments.

The relevant provisions have been modified since 1959. But,briefly, at the present time, private education establishments have the choice between four types of status:

a) complete integration in public education, with the consequence - among others - that teachers' salaries are paid by the state (it should be noted however that in no case has integration been requested);

b) contract of association: this contract has the effect that the classes are equated with corresponding classes in public education. Teaching is given by teachers from the state system or teachers paid by the state on a contract or temporary basis (including social security contributions at the ordinary rate);

c) ordinary contract: this formula enables some or all of the teachers to be recognised by the state. They then receive remuneration at official rates in accordance with their degrees or diplomas and on a scale laid down by Decree. According to the type of contract, the education establishment concerned bears the whole or a percentage (which can never be less than half) of the social security contributions attributable to the salaries paid by the state, but they may meet them out of the education grant paid by the state.

The Government recognised teachers of an education establishment under an ordinary contract, and non-established teachers in establishments having an association contract were until 1963 paid beginners' salaries. As the transitional period was due to end in September 1963 they were provisionally reclassified in accordance with the Decrees of 28th July, 1960,and an Order (since repealed) of 21st November, 1960,with effect from the date of their recognition, and taking into account half their length of service. The Decree of 10th March, 1964,provided in detail for their final reclassification: two-thirds of past service to be counted (at least for the period prior to 15th September, 1960), scale of remuneration to be that for the corresponding state posts (determined after a selection procedure and qualifying examination passed alongside state teachers and on the same conditions, but considered separately by the Selection Board).

The allocation in the Budget of the Ministry of Education for staff in private education amounted to Frs. 906,782,796 in 1967 and Frs. 978,782,796 in 1968. Apart from salaries, these figures cover payment of various allowances and contributions related to salary. This allocation covered 56,982 persons on 31st December, 1966,and 59,036 on 31st December, 1967, distributed as shown on Table 31.

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1) Study on Teachers, France, Ireland: O.E.C.D. document series (1969) (See Table 72).

TABLE 31

Recognised staff of private establishments under contract(1)

Staff in service	31.12.1966	31.12.1967
Teachers holding "agrégation"	29	43
Teachers holding a degree or qualifying for "agrégation"	1	3
Teachers holding a degree or certificate	1,384	462
"Chargés d'enseignement" (Non-established teachers)	2,055	2,348
Assistant teachers of technical subjects in technical lycées	16	8
Technical teachers who are demonstrators in colleges of technical education	21	13
General subject teachers, teachers of theoretical technical subjects and workshop instructors in colleges of technical education	- 73	- 61
Physical culture instructors	129	125
Assistant teachers of technical subjects in colleges of technical education	58	53
Primary teachers	14,159	16,036
Instructors	4,825	6,855
Teachers in colleges of general education	1,409	1,485
Supply primary teachers	18,027	15,508
Auxiliary primary teachers	14,796	16,036
Total	56,982	59,036
Total amount allocated in francs at current prices	906,782,796	978,782,796

Source: Budgets as voted.

1) Allowance has been made for the fact that some posts are part-time only and have accordingly been lumped together.

d) Establishments with no contract: an education grant is paid to the heads of approved establishments and is used to pay those teachers who give state education. As regards other establishments, salaries are financed by fees paid by the parents. However, action by teachers' unions and the existence of a state contracts system with consequent rises in remuneration are factors tending to produce equality of salaries with state education for reasonably comparable posts.

As regards technical education where no contract exists (i.e. in the case of two-thirds of establishments), a national agreement on salaries has been signed. It came into effect on 5th September, 1965, and aimed at producing equal pay with that in state education.

In primary education, a collective agreement has been signed which also came into effect on 15th September, 1965: in no case will salaries of primary teachers in the absence of a contract be less than the starting salary of non-established primary teachers in state education.

Thus, we are gradually moving towards a national agreement unifying salaries and approximating them to those of state education, as a result of action by teachers' unions at regional or national level.

Despite this tendency towards equalisation, Table 32 shows that the annual salary of teachers where no contract existed in 1965 was noticeably lower than that of teachers with the same qualifications working in the state system. The ratio between the starting salary of a graduate teacher in private and in state education is 1 to 1.44.

D) Equipment, operation and other (Heading III, Parts 4, 5, 6 and 7)

During the period 1952 to 1968 the expenditure covered by the above-mentioned four parts, expressed as a percentage of the annual ordinary budget, increased sharply (Table 27). In 1952 it amounted to N.Frs. 170,217, or a little more than 9 per cent of the ordinary budget; in 1968 it reached N.Frs. 1,958,640, representing 12 per cent of the ordinary budget. Expressed as an index, expenditure for the sub-heading "Equipment, operation and other" rose from 100 in 1952 to 1,150.7 in 1968 in francs at current prices, and 737.6 in francs at constant prices (Table 33). This increase is greater than that in the ordinary budget itself.

From 1952 to 1959, the amount of this sub-heading, expressed in francs at current prices, merely doubled. Thus the real increase dates from 1959.

It is noteworthy that the increase in appropriations applied in the same proportions to all four parts of this sub-heading: "operating subsidies" (Part 6) represent on average 71 per cent of the whole, and throughout the period their amount never varies more than one point from this figure; "equipment and various services" (Part 4) always amounts to about 27 per cent. Parts 5 and 7 - "maintenance work" and "sundry expenditure" - are always in the region of 1 per cent.

However, within each part, the individual chapters have not shown such a regular trend, and some of them have increased at a rate greater than the sub-heading as a whole. Among these should be mentioned "scientific research", "libraries", "operating expenses of national public education establishments and universities" and "expenditure on equipment". Obviously, to the extent that the percentage of each part in the sub-heading "equipment, operation and various" has practically not changed, the amount of certain chapters has only been able to increase at the expense of others.

TABLE 32

Annual salaries of teachers without contract (scale applicable from September 1965 proposed by the Headmasters' Union)

(in N.Frs.)

Promotion list			Secondary classes				Elementary classes and kindergarten		Physical education				Invigilators	
Incremental steps	Duration	Percentage increase	Full teachers degree	Ordinary degree or teachers degree less one certificate	Full Baccalauréat	Incomplete Baccalauréat and other qualifications	Baccalauréat Brevet Supérieur Brevet Elémentaire C.A.P. 5% increase	Other qualifications	Teacher	Assistant teacher	Instructor holding Baccalauréat	Instructor without Baccalauréat	Invigilator general	Career invigilator
For a working week of			18 h	20 h	18 h	18 h	30 h	30 h	20 h	25 h	25 h	25 h	45 h	45 h
Probationer	1 year		8,000	8,000	6,000	5,400	6,900	6,000	8,000	7,800	7,500	7,000	8,400	6,600
1st step	1 year	5%	8,400	8,400	6,300	5,670	7,245	6,300	8,400	8,190	7,875	7,330	8,820	6,930
2nd step	18 months	5%	8,800	8,800	6,600	5,940	7,590	6,600	8,800	8,580	8,250	7,700	9,240	7,260
3rd step	18 months	5%	9,200	9,200	6,900	6,210	7,935	6,900	9,200	8,970	8,625	8,050	9,660	7,590
4th step	2 years	5%	9,600	9,600	7,200	6,480	8,280	7,200	9,600	9,360	9,000	8,400	10,080	7,920
5th step	3 years	5%	10,000	10,000	7,500	6,750	8,625	7,500	10,000	9,750	9,375	8,750	10,500	8,250
6th step	3 years	5%	10,400	10,400	7,800	7,020	8,970	7,800	10,400	10,140	9,750	9,100	10,920	8,580
7th step	3 years	5%	10,800	10,800	8,100	7,290	9,315	8,100	10,800	10,530	10,125	9,450	11,340	8,910
8th step	3 years	5%	11,200	11,200	8,400	7,560	9,660	8,400	11,200	10,920	10,500	9,800	11,760	9,240
9th step	4 years	10%	12,000	12,000	9,000	8,100	10,350	9,000	12,000	11,700	11,250	10,500	12,600	9,900
10th step	4 years	10%	12,800	12,800	9,600	8,640	11,040	9,600	12,800	12,480	12,000	11,200	13,440	10,560
11th step		10%	13,600	13,600	10,200	9,180	11,730	10,200	13,600	13,260	12,750	11,900	14,280	11,220
Starting monthly salaries			666.66	666.66	500	450	575	500	666.66	650	625	584	700	550
Hourly pay rate (where applicable) or supply rate			16.60	15	12.50	10.90	8.60	7.50	15	13.15	12.65	11.80	7	5.50

Source: Federation of independent schools; "Study on Teachers France - Ireland" op. cit.

Also noteworthy is the rapid rise in the appropriations for documentation on teaching, and for information, guidance services and student welfare facilities.

Other chapters have appeared which did not exist in 1952, such as school broadcasting and television and the supply of school books.

1. Scientific research

Appropriations for scientific research account for a large part of the expenditure in the budget of the Ministry of Education. To the operating subsidy granted to the National Centre for Scientific Research (Chapter 36.21), which in the last budget represented 3.48 per cent of the operating expenditure in the education budget, there must be added subsidies for scientific research granted to universities and other major establishments in higher education (Chapter 36.15), which in turn accounted for 1.38 per cent of the same budget, and subsidies, although of lesser amount, to various research bodies. In 1968, accordingly, scientific research represented 5 per cent of operating expenditure in the education budget (Table 34).

During the period 1952 to 1968, the index of expenditure on scientific research rose from 100 to 2,621.7, whereas that of the sub-heading "equipment, operation and various" rose from 100 to 1,150.7 and that of operating expenditure from 100 to 880.5. Converted into francs at constant prices, these indices of expenditure amounted respectively to 1,680.62 for research, 737.6 for "equipment, operation and other" and 564.39 for the ordinary expenditure of the Ministry of Education.

TABLE 33

Trend of appropriations for equipment, operation and other, from 1952 to 1968

(In thousands N.Frs.)

Year	Equipment, operation and other	Conversion factor for francs at 1967 prices	Appropriations expressed in francs at 1967 prices	Annual increase in francs at current prices
1952	170,217	1.56	265,539	-
1953	183,462	1.61	295,374	107.78
1954	195,263	1.62	316,326	106.43
1955	214,907	1.62	348,149	110.06
1956	250,568	1.55	389,915	116.59
1957	295,608	1.49	440,456	117.93
1958	330,747	1.31	433,279	111.88
1959	398,702	1.25	498,378	120.54
1960	514,833	1.21	622,948	129.12
1961	629,922	1.18	743,308	122.35
1962	748,245	1.13	845,517	118.78
1963	967,062	1.08	1,044,427	129.24
1964	1,219,865	1.06	1,293,057	126.14
1965	1,368,673	1.04	1,423,420	112.19
1966	1,480,414	1.01	1,495,218	108.16
1967	1,709,649	1.00	1,709,649	115.48
1968	1,958,640	-	1,958,640	114.56
Trend expressed as an index				
1952	100		100	
1968	1,150.67		737.6	

Source: Budgets as voted and Table 26.

TABLE 34

Scientific research - appropriations for research in the Budget of the Ministry of Education

(in thousands N.Frs.)

	1952 (a)	1953 (a)	1962 (b)	1963 (b)	1964 (b)	1965 (b)	1966 (c)	1967 (c)	1968 (c)
Operating subsidy to the CNRS	29,504	35,792	200,320	259,232	329,423	366,758	405,503	480,960	567,433
Subsidy for scientific research in universities and major establishments in higher education	-	-	n.d.	n.d.	n.d.	156,912	180,809	203,094	225,086
Other expenditure on research entered under Heading III	-	-	n.d.	n.d.	n.d.	27,839	28,836	16,898	19,657
Total (1)	29,504	35,792	n.d.	n.d.	n.d.	551,509	615,148	700,952	812,176
Expenditure on research under Heading IV (2)	1,620	1,011	920	920	920	1,320	1,320	2,820	3,820
Total (1) + (2)	31,124	36,803	302,350	397,180	510,450	552,829	616,468	703,772	815,996
Total expenditure on research in francs at constant prices(*)	48,553	59,253	341,656	428,954	541,077	574,942	622,633	703,772	815,996
Share in the operating budget of the Ministry of Education	1.67%	1.68%	4.19%	4.53%	4.74%	4.40%	4.50%	4.75%	5%
Increase expressed as an index (in francs at current prices)	100	118.2	971.4	1276.1	1640	1776.2	1980.6	2261.1	2621.7
Increase expressed as an index (in francs at constant prices)	100	122.03	703.67	883.47	1114.40	1184.15	1282.37	1449.48	1680.62
Enrolments	n.d.	n.d.	8,848	9,900	10,974	11,500	12,403	13,534	14,708

Sources: (a) Budgets as voted for 1952 and 1953.
(b) Report to the National Assembly for 1966 (51).
(c) Budgets as voted for 1966, 1967 and 1968. Annex "Scientific Research".

Note: (*) After applying the conversion factor for francs at 1967 prices.

It is now generally considered that half the activity on higher education is concerned with research; in 1952, however, only the subsidy to the CNRS and the appropriation for polar expeditions were treated as expenditure on research: this gave an incomplete picture. However, if we add to the 1952 figure an amount representing scientific research in higher education (by applying a percentage similar to that for the last few years) the increase will be from 100 to about 1,630 (or about 1,045 in francs at constant prices), such increase being at any event higher than that in the operating expenditure of the Ministry of Education.

From 1962 to 1968, the proportionate increase in expenditure on scientific research was continuous, except in 1965 and 1966 when the percentage of such expenditure in relation to expenditure of the Ministry as a whole was lower than in 1964. During the last two years the rate of increase has been resumed.

2. Expenditure on equipment (Chapters 34.02, 34.12 and 34.35)

We thought it would be interesting to examine the trend of expenditure on equipment (Table 35) during the period 1952-1968. The expenditure amounts to less than 1 per cent of the operating budget of the Ministry of Education and consequently represents a fairly small sum, but it is of interest to note the very different trend followed by expenditure concerned respectively with central administration, higher education and, mainly, secondary schools.

In 1952, equipment for the central administration and joint services represented 12.5 per cent of total equipment costs. In 1968 this percentage was 30.2. During the same period the expenditure on equipment for higher education fell from 14.6 to 6.75 per cent and that relating to schools and guidance centres fell from 72.9 to 63.5 per cent. However, this does not alter the fact that expenditure in the last category, expressed in francs at current prices, rose from 100 to 1,067.5 during the period. The trend appears much less favourable as regards higher education, where expenditure rose from 100 to 573.2; however, these figures require correction because an unascertainable proportion of the expenditure on equipment for higher education in 1952 was devoted to research which subsequently received a separate allocation. The indices of the increased expenditure on equipment expressed in francs at constant prices are, for 1968, 367.3 in higher education, 684.3 in schools and guidance centres and 791.4 for expenditure on equipment as a whole (Table 35).

As regards equipment for the central administration, the increase in the rate of expenditure is far above the average, rising from 100 in 1952 to 2,974.2 in 1968 (or 1,906.8 in francs at constant prices).

It would seem that the main cause of this rapid increase was the administrative growth of the academic regions which, from being negligible in 1952, accounted ten years later in 1962 for a little more than a quarter of the expenditure, and in 1968 amounted to 56.8 per cent of the chapter. In second place comes the rapid growth of the information processing department which accounted for 12.6 per cent of expenditure in the chapter in 1968, and also that of the Central Service for Statistics and Economic Trends which has had a separate allocation since 1965, and in 1968 accounted for 7.9 per cent of expenditure in this chapter: this percentage includes both the expenses of the department and the cost of research work and surveys carried out under contract.

In actual fact it is mainly the addition of new activities to those of 1952 which explains the growth of the chapter "Central administration and joint services - equipment".

TABLE 35

Trend of expenditure on equipment from 1952 to 1968

(in N Frs.)

Year	Central administration and joint services (34.02)	Higher education (34.12)	Schools, guidance centres, libraries and teaching equipment (34.35)	Total
1952	1,003,820	1,165,100	5,841,290(1)	8,010,210
1953	966,520	1,196,720	6,654,930(1)	8,818,170
-	-	-	-	-
1962	5,274,270	2,983,053	12,881,850	21,139,173
1963	9,150,270	3,412,453	22,786,850	35,349,573
1964	16,329,270	5,031,453	27,475,070	48,835,793
1965	19,250,270	5,309,953	33,379,230	57,939,453
1966	21,951,686	6,635,909	44,797,670	73,385,265
1967	25,538,116	6,883,909	54,407,670	86,829,695
1968	29,861,116	6,679,226	62,357,670	98,898,012
Trend expressed as an index: In francs at current prices				
1952	100	100	100	100
1968	2,974.2	573.2	1,067.5	1,234.7
in francs at constant prices				
1952	100	100	100	100
1968	1,906.8	367.3	684.3	791.4

Source: Budgets as voted.

1) In 1951 and 1953 these figures comprised the following chapters: "Secondary education - Libraries and teaching equipment", "Primary education - equipment", "National schools for the handicapped - equipment" and "Technical education - equipment".

On the other hand, by altering the financial arrangements relating to some of the major higher education establishments such as the Ecoles Normales Supérieures (higher teacher training schools), the Ecole Nationale des Langues Orientales (School of Oriental Languages), the Ecole Nationale des Chartes (School of Palaeography and Librarianship), an operating subsidy entered in Chapter 36.13 has taken the place of direct state responsibility for expenditure on equipment.

No special comment is required on trends affecting the chapter covering equipment for schools and guidance centres.

3. Libraries and public reading

This title covers a wide variety of entities: the Bibliothèque Nationale (National Library), the libraries of the major study and research establishments, university libraries, central lending libraries, and the Phonothèque Nationale (National Library of Sound Recordings). (Table 36).

TABLE 36

Trend of appropriationsfor libraries and public reading from 1952-1968

(in N.Frs.)

Year	Libraries: reimbursement of expenses (34.61)	Libraries: equipment (34.62)	Share in cost of equipping municipal libraries (35.61)	Operating expenses and various promotional activities (36.61)	Total
1952	63,210	1,072,990	106,850	2,463,000	3,706,050
1953	70,820	1,026,640	106,850	2,497,990	3,702,300
-	-	-	-	-	-
1962	472,328	2,272,570	125,000	11,634,000	14,503,898
1963	496,678	2,447,570	125,000	13,687,700	16,756,948
1964	497,955	2,270,010	125,000	17,026,260	19,919,225
1965	298,752	2,437,010	125,000	19,885,760	22,746,522
1966	309,130	2,706,400	125,000	21,563,060	24,703,590
1967	312,940	3,906,400	150,000	25,267,785	29,637,125
1968	387,981	10,947,035	262,000	28,469,675	40,066,691
Trend expressed as an index: in francs at current prices					
1952	100	100	100	100	100
1968	613.8	1,020.2	247	1,155.9	1,081.1
in francs at constant prices					
1952	100	100	100	100	100
1968	393.5	654	157.2	740.9	693

Source: Budgets as voted.

The trend of expenditure devoted to the "Directorate for libraries and public reading" reveals a desire, albeit of recent occurrence, on the part of those responsible for education to develop reading at all levels. Until 1967, all increases in appropriations were absorbed by university libraries, it having been decided, at the same time as new faculties and universities were being created, to open modern university libraries in each academic region. These libraries are either already completed or being built, or at the planning stage. Thus the allocation for university libraries, which accounted for approximately 44 per cent of Chapter 36.61 in 1952, covered 71.7 per cent in 1968. Moreover, the Ministry has endeavoured to institute links between the National Library and university libraries.

The "plan for developing public reading", drawn up in 1968, led to the creation - already achieved or planned to be so shortly - of 116 new posts. This plan aims to encourage reading as an instrument of continuing education, and to help preserve the national heritage. The implementation of this plan led to heavy expenditure in 1968 so that the leeway in appropriations for libraries was caught up (Table 36). Between 1967 and 1968 the whole of the increase in Chapter 34.62 "equipment" was taken up by development of "municipal and public libraries - state collections" and "public reading libraries", i.e. the 51 lending centres, the appropriations for which increased respectively 7.5 and 2.6 times between 1967 and 1968.

4. Public teaching establishments and guidance centres - operating expenses (Chapter 34.36)

This chapter covers operating expenditure on special national establishments in primary education (2.6 per cent of the chapter in 1968), national establishments for classical, modern, technical and vocational education (96.4 per cent), guidance centres (0.8 per cent) and primary establishments in overseas territories (0.2 per cent).

Changes in budget layout since 1952 make it impossible to compare expenditure in 1968 with that for the base year. Nevertheless it appeared to us useful to set forth expenditure for the last seven years. The trend of expenditure illustrates the policy of nationalisation followed in recent years, and also the improvement in the education facilities provided: generally speaking, the increase in expenditure has been greater than the increase in the number of establishments for which responsibility was assumed (Table 37).

It should be further noted that in 1968 this chapter was far from negligible in amount since it represented 1.43 per cent of the operating budget of the Ministry of Education.

In 1962, the Ministry of Education was responsible for the running of:

- 21 special national primary establishments;
- 495 national classical and modern lycées;
- 124 state or nationalised technical lycées;
- 86 technical sections in state or nationalised lycées;
- 868 technical secondary schools;

representing a total expenditure of Frs. 83,868,670. In 1968 there were more than 29 special national primary establishments and the number of other establishments had risen from 1,573 in 1962 to 2,703, viz:

- 323 state classical and modern lycées;
- 81 state technical lycées;
- 116 state classical, modern and technical lycées;
- 147 nationalised classical and modern lycées;
- 108 nationalised technical lycées;
- 88 nationalised classical, modern and technical lycées;
- 1,049 technical secondary schools;
- 791 nationalised secondary general schools.

In seven years the number of establishments for which the Ministry of Education is responsible has almost doubled, through the combined effects of nationalisation of establishments run by the communes and the opening of new state establishments. The figures quoted underline the decreasing importance of the part played by regional and local authorities. As regards colleges of general and secondary education, the first nationalisations occurred in 1965: during that year 541 colleges became the responsibility of the Ministry of Education.

A study of the budgets reveals in addition the growth of other chapters which do not cover direct expenditure on education. Such are, for instance, the expenditure of bodies supplying teaching documentation or running correspondence courses, the university office for statistics and school documentation, and university student facilities. Here again changes in, and extensions to, the budget make it impossible to compare such expenditure between 1968 and 1952.

TABLE 37

Operating expenditure of national public education establishments and guidance centres from 1962 to 1968 (Chapter 34.36)

(in N.Frs.)

Year	Special national primary establishments		Secondary establishments		Other expenditure	Chapter total
	Number	Allocation	Number	Allocation		
1962	21	1,648,620	1,573	82,220,050	-	83,868,670
1963	25	2,003,620	1,613	107,125,255	-	109,128,875
1964	26	2,490,620	1,645	124,215,955	-	126,706,575
1965	28	3,233,120	2,236	147,554,266	-	150,787,386
1966	28	4,220,620	2,336	174,491,295	-	178,711,915
1967	29	4,639,877	2,446	197,699,467	624,000(1)	202,963,344
1968	n.d.	6,040,162	2,703	226,064,206	2,300,000(2)	234,404,368
Value expressed in francs at 1967 prices						
1962	21	1,862,940	1,573	92,908,656	-	94,771,597
1963	25	2,163,910	1,613	115,695,275	-	117,859,185
1964	26	2,640,057	1,645	131,668,912	-	134,308,970
1965	28	3,362,445	2,236	153,456,437	-	156,818,881
1966	28	4,262,826	2,336	176,236,208	-	180,499,034
1967	29	4,639,877	2,446	197,699,467	624,000	202,963,344
1968	n.d.	6,040,162	2,703	226,064,206	2,300,000	234,404,368

Source: Budgets as voted.

1) Of which guidance centres Frs. 500,000.

2) Of which guidance centres Frs. 2,000,000.

5. School broadcasting and television

In their present form and extension, school radio and television broadcasts represent a new effort made by the Ministry of Education. As shown by the budget below, in 1967 expenditure amounted to approximately 2 per cent of the operating budget of the Ministry of Education. The programmes concern both elementary and intermediate education, and higher education.

General economics of operating school radio and television broadcasts in 1967

		(estimated amounts)
a)	Cost of preparing and making the programmes 1,100 radio broadcasts 400 television broadcasts	Frs. 5,600,000
b)	Cost of editing and distributing support media	Frs. 4,700,000
c)	Cost of transmitting and relaying broadcasts 2,300 radio broadcasts (of which, 100 for adults) 1,200 television broadcasts (of which, 300 for adults)	Frs. 8,000,000
d)	Cost of receiving equipment, used for equipping public establishments with receiving sets (strictly, this is capital and not operating expenditure)	Frs. 1,000,000
e)	Cost of running and monitoring programmes	Frs. 600,000
f)	Expenditure on permanent staff (220 persons)	Frs. 3,000,000
	general overheads	Frs. 5,400,000
	amortization	Frs. 500,000
	Operating budget for 1967	Frs.28,800,000

Special equipment

a) Language laboratories: in 1966-1967 ten secondary establishments were fully equipped, and several others received appropriations for completing their installation. The expenditure amounted to about Frs. 900,000. Twenty laboratories have been installed for higher education.

b) Closed circuit television. Thirty circuits have been installed in higher education establishments. The extension of the circuits installed in the lycées of Liévin and St. Quentin by the IPN(1) cost Frs. 65,000 in 1966.

c) The cost of the audio-visual equipment at the experimental CES at Marly-le-Roi amounts to Frs. 825,000 to date.

The aim of broadcasts is henceforth to provide the essential part of the course which teachers then develop and complete, whereas initially broadcasts were mainly of a documentary nature. Although the broadcasts may be considered of high quality, it still seems that insufficient effort is made by the listeners and that pupils use the equipment more for recreation than for education. The fault lies in the lack of suitably trained teachers.

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1) National Teaching Institute (Institute pédagogique national).

6. Provision of school books

The free supply of school books is a measure which came into effect for the first time in 1964 for pupils in 6ème and 5ème in lycées, CESs and CEGs. The principle is as follows: an allowance of Frs. 40 per child is granted for the supply of non-permanent text books (atlases and dictionaries are regarded as permanent). The text books are supposed to be used for three successive years.

Since 1964 the amount of the allocation has been as follows:

1964 = N.Frs. 14,000,000
1965 = N.Frs. 14,000,000
1966 = N.Frs. 6,000,000
1967 = N.Frs. 20,700,000
1968 = N.Frs. 14,500,000

The extreme irregularity in amount is explained by the extension of the allocation in certain years to new classes, causing a marked increase in expenditure on top of the normal renewal of the stock of text books purchased three years before.

E. Subsidies and grants (Heading IV - Parts 3,6,7 and 8)

The most striking point in the general table is the large increase in the heading "Subsidies and grants" since 1961. Prior to that date, expenditure under this heading amounted on average to 8.55 per cent of annual operating expenses, but between 1961 and 1968 such expenditure accounted on average for 15.75 per cent. By reason of the annual growth in operating expenses, the amount of subsidies and grants rose from index 100 to index 1,522.11 (or index 1,006 after applying the conversion factor for francs at 1967 prices), whereas operating expenditure during the same period rose from 100 to 880.46 (or 537 after applying the conversion factor for francs at 1967 prices). (Table 38).

The bulk of allocations under this heading are contained in a few chapters; their layout has been altered several times during the reference period.

1. Relations between the state and private education establishments (Chapter 43.34)

Pursuant to the Debré Act this allocation appeared in the budget of the Ministry of Education in 1961 (Table 38). At that time it accounted for 3.17 per cent of operating expenditures; since 1962 it has amounted to about 7 per cent of such expenditure. In 1968 it was the largest allocation made under the heading "Subsidies and grants", the percentage being 46 per cent (39.61 per cent of total subsidies and grants if the education grant be included). This allocation is almost entirely made up of salaries of teachers in establishments under contract to the state: the staff thus taken on charge totalled 59,036 persons at 31st December, 1967. The rest of the allocation represents state responsibility for "operating expenditure" of establishments having an association contract, "scholarships" and a subsidy for "school transport services".

Thus it will be seen that the chapter "Relations between the state and private education establishments" accounts, by itself, almost entirely for the increase in the heading "Subsidies and grants", which has almost doubled as a result between 1952 and 1968.

TABLE 38

Trend of the heading "Subsidies and grants" and of the chapter "Relations between the state and private education establishments"

(in thousands N.Frs.)

Year	Subsidies and grants(1)	Conversion factor for francs at 1967 prices	Amount of subsidies and grants expressed in francs at 1967 prices	Relations between the state and private education establishments (43.34)	Chapter 43.34 as a percentage of subsidies and grants	Chapter 43.34 as a percentage of operating expenditure(1)
1952	160,249	1.56	249,988	-	-	-
1953	158,410	1.61	255,040		-	-
1954	177,413	1.62	287,407	-	-	-
1955	198,945	1.62	322,291	-	-	-
1956	213,734	1.55	331,288	-	-	-
1957	233,652	1.49	348,142	-	-	-
1958	285,995	1.31	374,653	-	-	-
1959	325,401	1.25	406,751	-	-	-
1960	423,817	1.21	512,818			
1961	709,109	1.18	836,748			
1962	1,117,517	1.13	1,262,794	487,800	43.6	6.76
1963	1,225,353	1.08	1,323,381	485,798	39.6	5.54
1964	1,557,993	1.06	1,651,473	685,783	44.0	6.37
1965	1,953,213	1.04	2,031,342	955,783	48.9	7.62
1966	2,137,846	1.01	2,159,224	1,015,783	47.5	7.42
1967	2,251,944	1.00	2,251,944	1,031,783	45.8	6.96
1968	2,439,658	-	2,439,658	1,121,783	46.0	6.87
Trend expressed as an index						
1952	100	-	100	-	-	-
1968	1,522.41	-	1,006	-	-	-

Source: Budget as voted, after deducting the items referred to in Table 26.

1) Cf. Table 26.

TABLE 39

Trend in amount of scholarships, awards and study grants

(in thousands N.Frs.)

Year	Scholarships for higher education and study grants(1)	National scholarships and study grants for secondary education(2)	Apprenticeship scholarships	Other	Total	Scholarships for travel \ and training periods abroad	Loans on trust
1952	32,076	99,854		-	131,930	1,041	938
1953	32,604	96,446		-	129,050	1,016	298
-	-	-		-	-	-	-
1962	111,754	308,631	102,157	4,951	527,493	1,764	1,500
1963	153,733	338,254	108,435	7,531	607,953	1,786	1,500
1964	180,756	380,808	118,418	8,575	688,587	1,786	1,500
1965	214,525	426,308	129,520	11,004	781,357	1,636	1,500
1966	247,174	599,731		12,180	859,085	1,646	500
1967	279,854	633,081		9,216	922,151	1,763	500
1968	308,144	653,778		10,624	972,546	862	500
Index							
1952	100	100			100		
1968	960,6	654,7			737,1		

Source: Budgets as voted.

1) Universities, major establishments, Grandes Ecoles, higher technical education, classes preparing for the Grandes Ecoles and training of teachers for technical education.

2) Establishments of secondary level, both public and private, and classical, modern and technical lycées and CEGs.

2. Scholarships and study grants (Chapter 43.71)

The changes in budget layout concerning scholarships and study grants between 1952 and 1968 make it difficult to reflect their trends accurately during that period. Tables 39 and 40 aim merely to give an order of magnitude which may convey some idea of the position.

In addition it should be noted that the very nature of the scholarships and the way in which they are awarded have altered.

For instance, as regards higher education, scholarships originally were intended to enable students who were not well off, but showed exceptional merit in their studies, to receive effective help from the state in preparing for examinations and competitions for which they were fitted by their intellectual attainments. Nowadays the help is not very effective but it is divided among a great number of students whose parents, of modest means, would be unable without a sacrifice to allow their children to continue their studies in a normal way: the increase in the number of scholarships is therefore greater than that in the number of students. Access to higher education by social and occupational classes from less well-to-do backgrounds will accentuate the trend of scholarships to become allowances of a social nature. In making an evaluation of scholarships in higher education it is appropriate to compare with the number of scholarships the number of "student teachers". The latter are paid and thus not entitled to scholarships but it is probable that most of them would have applied for assistance in the form of scholarships if this new category had not been created.

The reasons set out above and the various reforms in the education system thus combine to make the figures in the tables unreliable; but these figures still appeared to us sufficiently representative to give an idea of the trend in scholarships during the period 1952 to 1966. They show that in this interval of time the number of students in higher education (universities, Grandes Ecoles, IUTs, classes preparing for the Grandes Ecoles) has increased three-fold whereas the number of scholarship holders increased four-fold and the allocation for scholarships increased five-fold (after applying the conversion factor for francs at 1967 prices). Expressed in francs at 1967 prices, the average amount of scholarships in higher education rose from 1,900 in 1952 to 2,330 in 1966 which means that the actual rate of the scholarships increased by about 25 per cent.

If student teachers be now assimilated to scholarship holders the total number of the latter will be seen to have risen between 1952 and 1966 from 32,725 to 138,643. In other words, nowadays one student in 3.91 receives assistance as against one in 5.46 in 1952.

As regards secondary education, the system of awards was based originally on the conditions under which the pupil was to pursue his studies and on an estimate of the family income; the criteria for determining such income were sometimes faulty and bore hardly, in particular, on children from an agricultural background who were already penalised for insufficient school transport. Another system, based on percentages of scholarships to be awarded to each of the major social and occupational categories, now tends to take the place of the earlier one. To this should be added the revised system of fixed estimates for agricultural incomes brought in recently, which has a similar influence on the allocation of scholarships.

TABLE 40

Higher Education

Comparative trends in the number of students, scholarship holders, student teachers and the amounts of scholarships and study grants

	In absolute figures		Expressed as an index	
	1952	1966-67	1952	1966-67
Number of students	179,000	543,000	100	303.3
Number of scholarship holders	26,335	107,000	100	406.3
Number of student teachers	6,390	31,643	100	495.0
Total	32,725	138,643	100	423.6
Total amount of scholarships in new francs '000 at current prices	32,076	247,174	100	770.5
Total amount of scholarships in new francs '000 at 1967 prices	50,040	249,645	100	498.8
Average rate for a scholarship in new francs at current prices	1,215	2,310	100	190.1
Average rate for a scholarship in new francs at 1967 prices	1,900	2,330	100	122.6

Source: Budgets as voted.

Examination of the trend in the number of scholarships in secondary education is rendered difficult by virtue of the fact that in 1952 there were three types of scholarship: boarding, day-boarding and day-pupil. Various other forms of aid were given but it is not possible to determine the number of recipients. In this context we can only say that the number of scholarships awarded was not less than 175,000 in 1952. From 1952 to 1968 the number of pupils awarded scholarships in secondary education thus increased approximately seven-fold and the total amount paid out increased 6.5 times (or 4.1 after applying the conversion factor for francs at constant prices).

In these circumstances the percentage of award holders must now amount to 62.9 per cent among pupils of CETs, 36.3 per cent in the second cycle, 42.3 per cent in the first cycle and 22.5 per cent in higher education.

Since 1959, scholarships account for on average 6.3 per cent of operating expenditure. However, during the last five years they have increased at a slightly slower rate than operating expenditure itself, so that in 1968 they accounted for only 5.95 per cent of such expenditure as against 6.94 per cent in 1963.

We have separated study grants and awards from travel grants and loans on trust. It is sufficient to mention that these latter represent a negligible amount, which is gradually growing still less. Grants for travel and for periods of study abroad are also decreasing in amount.

3. School transport (Chapter 43.35)

This chapter appeared in the budget of the Ministry of Education in 1960 and then accounted for 0.2 per cent of operating expenditure. Its development is linked with the reform in secondary education (which led to the creation of CEGs and CESs bringing together children from several communes), with the raising of the age limit for compulsory schooling and with the closing down of classes having too few pupils. At the present time this allocation accounts for 1 per cent of operating expenditure and it has contributed in no mean way to the considerable increase in the education budget in expenditure on active forms of intervention since it represents 5.41 per cent of the heading "subsidies and grants".

In 1966, the number of pupils using school transport was in the region of 600,000. It should be noted that the sum involved is not a fixed amount per pupil. It has been found from calculations made that the cost in 1966 was between Frs. 220 and Frs. 253 per pupil using regular road or rail transport and between Frs. 221 and Frs. 328 per pupil using a special service, 65 per cent of such expenditure being met by the state.

4. Student welfare facilities (Chapter 46.11)

Another important chapter in Heading IV is that of student welfare facilities. This chapter includes the grant to university refectories, the cost of running university halls of residence met by the state, the costs of running welfare services for students. To round these off two small allocations are made towards cultural activities and medical and social work.

The grant to university refectories accounted in 1968 for about 80 per cent of the chapter; the figure is arrived at by multiplying the number of meals served by half the unit cost of meals, since the other half is paid by the students. The study of the figures shows that the number of meals increased from index 100 to 437 while the amount of the grant increased from 100 to 1,150 (737.7 in francs at constant 1967 prices). Accordingly, in proportion, prices have risen faster than the number of students, the number of meals being linked with the latter figure.

Thus it will be seen that most of the allocations under Heading IV have decreased during the last few years or at any rate have increased less rapidly than operating expenditure. In addition to the two new chapters which show a clear trend in the opposite direction, it should be noted that "supplementary school welfare activities" and activities in favour of "special national primary establishments and school establishments" have also considerably increased during the last few years.

It is impossible from an analysis of budget expenditure to aggregate all the chapters concerning direct and indirect aid to pupils, i.e. supply of school books [(D)6.], student grants and bursaries [(E)2.], school transport [(E)3.] and social benefits for students [(E)4.]. The growing magnitude of such expenditure with the increase in school and university enrolments cannot here be analysed in detail, owing to lack of sufficient data for the period under consideration. However, both the legislation on aid to students and its trend in volume can be studied in greater detail for the period 1962-1963 until the present time. This is dealt with in Annex III of the report.

France, like other countries, has been unable to avoid some dispersal of direct aid as a result of the increase in potential beneficiaries (particularly due to legislation which was no longer suited to the rise in earnings) and the budgetary constraints. Indirect aid, however, at higher education level continued to be made available to students at a low cost. For a clear reply to the question of who received such aid, for what purpose and by what means, the harmonization of the various types of aid, which in any case are not confined to the Ministry of Education budget, will have to be re-examined in the years to come. It was found for 1966-67 (Commission d'étude sur l'aide de l'Etat aux étudiants - Study Commission on State aid for Students) that tax relief and higher family allowances for children continuing their studies had each reached Frs. 100 million.

A commission is at present going into the question of making all compulsory education completely free. Another commission will clearly be needed in the future to study the situation at other levels of education.

To sum up, if we except from the heading "Subsidies and awards" the new liabilities taken on by the Ministry of Education, expenditure under this heading has followed more or less the same trend as operating expenditure as a whole.

F. Education grant - Heading IV - Chapter 43.36

The education grant is normally part of the heading "Subsidies and awards"; however, owing to its size and to the fact that it appeared in the Ministry of Education budget in 1966 without the state thereby taking on any new liability in regard to education (since it was previously included in the special Treasury accounts), we have thought it preferable to study its development separately (see in Annex IV the general principles governing payment of the education grant since its institution, and its utilisation).

This grant - which is a result of the Barangé Act of 1951 - consists in the award to all pupils in pre-primary, primary and first-cycle secondary establishments (i.e. from nursery school to 3ème inclusively) a payment of Frs. 13 per school term or Frs. 39 a year.

The Barangé Act, in 1951, provided for a narrower basis of award and the amount was Frs. 10 per school term.

All the changes made to the original enactment have aimed at broadening its scope. The increase in enrolments has also had the effect of increasing the total amount involved. On the other hand, the amount per pupil has not been changed, or even readjusted, since 1953: it has remained at Frs. 13 per actual term's attendance.

In 1968 the education grant accounted for 2.3 per cent of ordinary expenditure in the Ministry of Education budget and 1.9 per cent of the total budget of that Ministry.

The spontaneous increase in enrolments and the extension of the scope of award of the education grant explain its steady rate of increase (Table 41). However, in 1959 there was an exceptional increase which was more than one-third of the amount granted in the preceding year: it would appear attributable for the most part to payment of outstanding balances for previous years. On the other hand, in 1967 the amount was lower than in the preceding year: this was due to an insufficient budget appropriation which was made good the following year.

But if we consider the number of pupils entitled each year to the education grant we shall see that from 1952 to 1968 that number rose from 4,250,000 to 10,050,000 pupils, i.e. it became two-and-a-half times greater.

However, the number of entitled pupils shown in Table 41 is a theoretical one, which is lower than the true figure as shown by the number of recipients given in reports to the National Assembly. The difference is due to the fact that each year the forecasts are generally too low so that it is necessary in the following year to adjust the appropriations in the budget in relation to the true figures.

Insofar as the education grant has only once been readjusted - in 1953 - the appropriations for it are closely linked to the number of pupils in receipt of the grant, so that no further comment is required on the general trend.

G. Trend of the operational budget

In order to complete this study of trends in the main chapters of the budget of the Ministry of Education from 1952 to 1968, we propose to examine trends in the ordinary operational budget of the Ministry, i.e. the breakdown by sector and level of education, during the same period. On this basis it is of course possible to calculate the cost per pupil for the various levels considered, but such a calculation would produce results too general to be of much interest.

We have used for the purpose the breakdown, by type and by service, of expenditure in the 1966, 1967 and 1968 budgets. This breakdown was made by the Budget Department of the Ministry of Education.

For 1952 we have carried out the same operation using the same criteria for the breakdown as for the three years mentioned above. However, changes in budget layout during the period, on the one hand, and the various reforms in the education system, on the other, introduce some slight distortion into the comparison. It appears to us, however, that comparison of the 1952 and 1968 budgets remains meaningful despite these unavoidable differences (Tables 42, 43 and 44).

The first difference concerns primary education. Under that heading we have included pre-primary and elementary establishments which the budget has distinguished since 1956 but which were lumped together in 1952. In 1952 this sub-heading also included expenditure on continuation courses (cours complémentaires) and, in 1968, on primary terminal classes, which are due to disappear gradually, the children entering a CES or a CEG, i.e. secondary education. A transfer is therefore in progress towards secondary education of school populations which were previously included in primary education.

Simultaneously, the school population at secondary level is increased by these same enrolments. Under the heading "general secondary" for 1968 we have included expenditure on CESs, CEGs and the general secondary second cycle, i.e. expenditure on all pupils in 6ème, 5ème, 4ème and 3ème and pupils receiving classical and modern education in 2nde, 1ère and the secondary terminal classes. In 1952 this same sub-heading covered pupils receiving classical and modern education from 6ème to the terminal classes.

Consequently, the pupils who in 1952 were entered in 6ème and 5ème in technical establishments where they were receiving general education have been counted here among the technical pupils, whereas logically and to make the comparisons coherent, they should have been added to the enrolments in "general secondary" with the expenditure they entailed. However, lack of available information has made such a breakdown impossible.

Expenditure on "technical secondary" is therefore unduly high in 1952 to the detriment of "general secondary".

TABLE 41

Education grant - trend from 1952 to 1968

(In New Francs)

Year	State education	Private education	Total	Proportionate share		Number of pupils entitled
				State education %	Private education %	
1952	104,572,060	21,164,030	127,736,090	80.87	18.13	4,257,870
1953	132,635,535	3 ,131,283	163,766,818	80.99	19.01	4,199,149
1954	153,695,005	32,987,766	186,682,771	82.33	17.67	4,786,738
1955	187,056,113	39,417,573	226,473,686	82.60	17.40	5,007,018
1956	239,784,288	49,995,938	289,780,196	82.75	17.25	7,430,261
1957	237,006,002	48,697,753	285,757,755	82.95	17.05	7,327,122
1958	246,081,162	49,305,984	295,387,146	83.31	16.69	7,574,029
1959	344,853,263	71,454,539	419,607,802	82.18	17.03	10,759,174
1960	256,582,060	48,419,099	305,001,159	84.12	15.88	7,820,543
1961	274,626,236	50,079,674	324,705,910	84.58	15.42	8,325,793
1962	280,583,028	49,058,807	329,641,835	85.12	14.88	8,452,355
1963	291,604,651	49,194,207	340,798,858	85.57	14.43	8,738,432
1964	290,727,420	48,699,312	339,426,732	85.65	14.35	8,703,249
1965	294,819,305	48,421,249	343,240,554	85.49	14.11	8,801,039
1966	324,407,083	58,074,514	382,481,597	84.82	15.18	9,807,220
1967	321,551,555	57,359,003	378,910,558	84.87	15.13	9,715,655
1968	334,816,297	58,791,936	393,608,233	85.06	14.94	10,092,518
Trend expressed as an index - francs at current prices						Trend in numbers entitled
1952	100	100	100	-	-	100
1968	320.17	253.8	308.1	-	-	237
- francs at constant prices						
1952	100	100	100	-	-	-
1968	205.24	162.7	197.5	-	-	-

Sources: 1952 to 1964 DDSIA No. 4.
1965 to 1968 Ministry of Education, Budget Department.

TABLE 42

Functional breakdown of the Budget for 1952

(in thousands N.Frs)

Nature of expenditure	Total	Primary	Handi-capped children	General secondary	Technical Secondary	Higher technical	Universi-ties, lib-raries, major establish-ments	Research	Training estab-lishments	Co-operation	Adminis-tration, joint services and health
Personnel costs	1,533,516	969,241	1,179	282,506	175,403	2,129	50,974	-	31,220	13	20,851
%	(100)	(63.19)	(0.08)	(18.42)	(11.44)	(0.14)	(3.32)	-	(2.04)	(0.01)	(1.36)
Equipment and operating	141,625	26	498	18,592	45,535	1,529	35,905	31,124	3,614	422	4,380
%	(100)	(0.02)	(0.35)	(13.13)	(32.15)	(1.08)	(25.36)	(21.97)	(2.55)	(0.30)	(3.09)
Welfare and assistance for pupils and students	173,462	11,256	875	44,007	55,218	2,012	45,138	-	14,743	213	-
%	(100)	(6.49)	(0.50)	(25.37)	(31.84)	(1.16)	(26.02)	-	(8.50)	(0.12)	-
Total	1,848,603	980,523	2,552	345,105	276,156	5,670	132,017	31,124	49,577	648	25,231
%	(100)	(53.05)	(0.14)	(18.67)	(14.94)	(0.30)	(7.14)	(1.68)	(2.68)	(0.04)	(1.36)
Breakdown as a percentage of costs for each sector											
Personnel costs	82.96	98.85	46.20	81.86	63.53	37.55	38.61	-	62.97	2.00	82.64
Equipment and operating	7.66	0.00	19.51	5.39	16.48	26.96	27.20	100	7.29	65.13	17.36
Welfare and assistance for pupils and students	9.38	1.15	34.29	12.75	19.99	35.49	34.19	-	29.74	32.87	-

Source: 1952 Budget as voted.

②

TABLE 43

Functional breakdown of 1968 budget

(in thousands new francs)

Nature of expenditure	Total	Primary	Handi-capped children	General Secondary	Technical Secondary	Higher Technical	Universities, libraries, major establishments	Research	Training establishments	Co-operation	Administration, joint services and health
Personnel costs	13,469,253	4,947,012	218,415	3,949,544	1,661,003	97,912	1,163,005	452,241	575,732	-	404,389
%	(100)	(36.8)	(1.6)	(29.3)	(12.3)	(0.7)	(8.6)	(3.4)	(4.3)	-	(3.0)
Equipment and operating	1,908,725	350,002	12,945	320,161	287,345	28,900	390,192	380,496	33,649	8,661	96,374
%	(100)	(18.3)	(0.7)	(16.7)	(15.1)	(1.5)	(20.4)	(19.9)	(1.8)	(0.5)	(5.1)
Welfare and assistance for pupils and students	1,341,521	37,513	5,075	573,572	248,080	72,334	365,839	-	30,092	9,016	-
%	(100)	(2.8)	(0.4)	(42.7)	(18.5)	(5.4)	(27.3)	-	(2.2)	(0.7)	-
Total	16,719,499	5,334,527	236,435	4,843,277	2,196,428	199,146	1,919,036	832,737	639,473	17,677	500,763
%	(100)	(31.9)	(1.4)	(29.0)	(13.1)	(1.2)	(11.5)	(5.0)	(3.8)	(0.1)	(3.0)
Breakdown as a percentage of costs for each sector											
Personnel costs	80.56	92.72	92.37	81.53	75.62	49.17	60.60	54.31	90.04	-	80.76
Equipment and operating	11.42	6.57	5.47	6.62	13.09	14.51	20.33	45.69	5.26	49.00	19.24
Welfare and assistance for pupils and students	8.02	0.71	2.15	11.85	11.29	36.32	19.07	-	4.70	51.00	-

Source: Functional budgets for 1966, 1967 and 1968 as prepared by the Ministry of Education.

TABLE 44

Comparison of functional budgets for 1952 and 1968 (in percentages) and trend of each sector (expressed as indices) from 1952 to 1968

Nature of expenditure	Year	Total	Primary	Handi-capped children	General Secon-dary	Technical Secondary	Higher Technical	Univer-sities, libraries, major estab-lishments	Research	Training estab-lish-ments	Co-opera-tion	Adminis-tration, joint services and health
Personnel costs	1952	100	63.19	0.08	18.42	11.44	0.14	3.32	-	2.04	0.01	1.36
	1968	100	36.8	1.6	29.3	12.3	0.7	8.6	3.4	4.3	-	3.0
Equipment and operating	1952	100	0.02	0.35	13.13	32.15	1.08	25.36	21.97	2.55	0.30	3.09
	1968	100	18.3	0.7	16.7	15.1	1.5	20.4	19.9	1.8	0.50	5.1
Welfare and assistance for pupils and students	1952	100	6.49	0.50	25.37	31.84	1.16	26.02	-	8.50	0.12	-
	1968	100	2.8	0.40	42.7	18.5	5.4	27.3	-	2.2	0.7	-
Total	1952	100	53.05	0.14	18.67	14.94	0.30	7.14	1.68	2.68	0.04	1.36
	1968	100	31.9	1.4	29.0	13.1	1.2	11.5	5.0	3.8	0.1	3.0
Trend of each sector expressed as an index												
In francs at current prices	1952	100	100	100	100	100	100	100	100	100	100	100
	1968	904	544	9,264	1,403	795	3,492	1,450	2,677	1,289	2,528	1,995
In francs at constant prices	1968	580	349	5,939	899	510	2,252	932	1,713	827	1,750	1,281

Source: Preceding Tables 42 and 43.

In regard to technical education, it should be mentioned that for 1968 we have lumped together the expenditure on short technical education and long technical education in which certain pupils remain at school until the age of 18 or 20. In 1952 this distinction was less clear and most of the pupils left school at 16 or 17; those who stayed on to a later age were few in number.

Under the heading "Administration and joint services" there are shown for 1958 not only administration expenses proper but also a certain number of other expenses incurred as lump sums, although they refer to various levels of education between which it is impossible to allocate them. These are mainly appropriations for inspection, guidance and audio-visual teaching. On the other hand, appropriations to meet the cost of bursars' offices and secretarial staff have been broken down by level of education. In 1952 it was not possible to break down administrative expenses between the levels of education; this drawback was offset by the fact that at that moment administrative expenses were very small compared with their amount in 1968. The appropriations for health and school medical services, for the same reasons, have been included in administrative expenses.

The breakdown of current expenditure by type calls for less comment; it consists of only three items:

- personnel costs;
- operating expenses;
- welfare and assistance for pupils and students.

Under the heading "Personnel costs" are included not only basic remuneration (salaries) but also the various allowances and the contributions that have to be paid in respect of such staff, including sums appropriated for the remuneration of teachers in private education.

Operating expenses cover, for 1968, four main chapters: equipment and departmental operating costs, subsidies to local authorities (i.e. aid to communes towards the running of municipal lycées and, in particular, aid for primary establishments and first-cycle secondary establishments from the Barangé fund), aid to private establishments (i.e. the Barangé grant, the flat rate payment for day-pupils in establishments having an association contract, assistance to Catholic university faculties and to private higher technical schools), repayments to other official bodies (i.e. sums appropriated to the French radio and television organisation, state participation in expenditure on education and research by hospitals and university hospital centres, the Official Gazette, the Post Office and the Government Printer).

For 1952, operating expenditure contained the same chapters; however, subsidies to local authorities and private establishments were negligible.

Welfare and assistance for pupils and students in state and private education: this covers appropriations for scholarships, university halls of residence and refectories, social security for students, complementary welfare services for schools, school transport and supply of books.

A preliminary examination of the two budgets involved shows the trend to be the combined result of the increase in enrolments and the extension of the number of services rendered, this extension being in turn due either to the taking over by the state of responsibilities previously shouldered by local authorities or private bodies, or to the improvement of the education service itself.

Primary education (including pre-primary and elementary). Whilst operating expenditure as a whole, expressed in francs at current prices, rose from index 100 in 1952 to index 904 in 1968 (index 580 in francs at constant prices)(1), expenditure on primary education rose from index 100 to index 544 (349) over the same period. In addition to the reasons connected with differences in the number of classes taken into account - as previously explained - the following causes may be adduced for this slower rate of increase in appropriations:

- the fact that, owing to the fall in the birth rate during the last few years, enrolments in primary education have increased only slightly, whereas at the same time secondary and higher education have had to absorb the pupils from the years of high birth rate;
- the fact that the school leaving age in secondary education has been raised and the corresponding increase in secondary errolments has had repercussions on higher education with a more than proportionate increase in operating costs;
- the fact that a certain number of items - particularly in secondary education - previously paid for by other authorities now appear in the general budget.

Thus, in 1952 personnel costs for primary education accounted for 63.19 per cent of total personnel costs. This percentage fell to 36.8 in 1968. On the other hand, appropriations for equipment and operating, which were negligible in 1952, now represent 18.3 per cent of total appropriations of this type. Sums allotted for assistance are also on the decrease.

To sum up, if in the general state budget only appropriations for primary education be considered, it can be seen that from 1952 to 1968 appropriations for equipment and operating costs have appeared (in particular for upkeep expenses and the Barangé grant) thus causing the proportionate share corresponding to personnel costs to fall from 98.76 to 92.72 per cent. Appropriations for assistance show a slight decrease but remain in the region of 1 per cent.

Handicapped children. This term included in 1952 the national special schools and the national centre for special education which were responsible for handicapped children. This branch of education has been reorganised and, above all, extended in order to cope with a far larger number of children who are unable to follow the education given to the majority. These may be mentally deficient, physically handicapped, deaf children and the like.

The sector of handicapped children is the one which has given rise to the highest increase from 1952 to 1968, the appropriations for this purpose having risen from index 100 to index 9,264 (5,939 in francs at constant prices). In actual fact this increase appears spectacular because the sector was almost totally neglected in 1952; even at the present time education for handicapped children still accounts for only 1.4 per cent of the total appropriations for operating expenditure.

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1) In the remainder of this chapter the figure in brackets will be the index for 1968 but in francs at constant 1967 prices. The differences that may be noted between the figures in Tables A and B (Annex I) and those e.g. in Tables 26 et seq. are due to the fact that we have used the Ministry of Education's criteria for the study of the operational budget, thus including in particular the education grant.

In this field the Ministry's efforts have been mainly concerned with buildings and staff. The latter absorbed, in 1968, 92.4 per cent of appropriations for operating expenditure on handicapped children. In addition, efforts have recently been made to train special teachers for this sector. In comparison with appropriations for staff costs, those for equipment and operation and those for assistance have shrunk from 5.47 to 2.15 per cent.

General secondary education. As previously mentioned, this heading did not cover the same classes in 1952 as in 1968, and it is now proportionately larger (cf. enrolment tables).

Its size has also grown as a result of the raising of the age limit for compulsory schooling and the increase in spontaneous demand for education beyond that point.

Operating expenditure for general secondary education increased faster from 1952 to 1968 than operating expenditure as a whole. It rose from index 100 to index 1,403 (899 in francs at constant prices) whilst expenditure as a whole rose from 100 to 904 (580 francs at constant prices).

In 1968 it accounted for:

- 29.3 per cent of personnel costs as against 18.42 per cent in 1952
- 16.7 per cent of appropriations for equipment and operating as against 13.13 per cent in 1952
- 42.7 per cent of appropriations for welfare and assistance for pupils as against 25.37 per cent in 1952
- 29.0 per cent of operating expenditure as against 18.67 per cent in 1952.

Personnel costs should have risen faster than other types of expenditure within general secondary education during the reference period, but transfer to the state of liability for certain operating costs and the increase in the number of scholarships have kept the breakdown of appropriations between the three chapters of expenditure fairly similar between 1952 and 1968.

In 1968 the breakdown was as follows:

- personnel costs 81.53 per cent
- appropriations for equipment and operating 6.62 per cent
- appropriations for welfare and assistance for pupils 11.85 per cent.

The percentages were respectively 81.86, 5.39 and 12.75 in 1952.

In this sector, the increase in appropriations for equipment and operating is the result of nationalisation of establishments (CEGs, CESs and lycées) which has made the state liable for a large part of operating costs; it is also due to the extension of the Barangé grant to pupils aged over 14 in the CESs and CEGs.

Secondary technical education. For 1968 this heading covers appropriations for long and short secondary technical education which concern children in technical lycées and technical secondary schools. Such courses last two, three or four years.

The first fact noticeable in regard to the trend of appropriations for secondary technical education is that the rate of increase has been slower than that of appropriations for operating expenditure as a whole, in spite of the pressure of demand.

Thus from 1952 to 1968 the index for operating expenditure in this sector rose from 100 to 795 (510 in francs at constant prices) as against 904 (580) for operating expenditure as a whole.

Appropriations for personnel, for this category as a whole, rose from 11.44 per cent to 12.3 per cent. Among the major sectors, the increase has been smallest in this one.

If we look at the appropriations for equipment and operating we shall see that there is a considerable fall as regards technical secondary education where the percentage was 15.1 in 1968 as against 32.15 in 1952.

Another large reduction is that in appropriations for welfare and assistance which in 1968 accounted for only 18.5 per cent of this chapter as against 31.84 per cent in 1952. The emphasis on other types of education and the smaller interest taken in technical education explain this relative reduction.

Within the sector itself, staff costs now enjoy a larger share having increased from 63.53 per cent in 1952 to 75.62 per cent in 1968, to the detriment of expenditure on equipment and operating on the one hand and of welfare and assistance on the other, which respectively accounted for 13.09 per cent and 11.29 per cent, as against 16.48 per cent and 19.99 per cent in 1952.

Higher technical education. This sector now includes the university institutes of technology (IUT), the Conservatoire national des arts et métiers, the training establishments for higher level technicians and the higher technical Grandes Ecoles which come under the Ministry of Education. This sector is in full growth as a result of the yearly creation, since 1966, of new IUTs(1).

This expansion has involved an increase from 100 to 3,492 (2,252 in francs at constant prices) in the appropriations for higher technical education.

In this sector, which in 1968 represented only 1.2 per cent of appropriations for operating expenditure as a whole, as against 0.8 per cent in 1966 and 0.9 per cent in 1967, the share represented by welfare and assistance for students is a large one and amounts to 5.4 per cent of the chapter. In 1952, the percentages were respectively 0.3 and 1.16. The two other chapters have also increased, the share of total staff costs being 0.14 per cent in 1952 and 0.7 per cent in 1968, and the share of appropriations for equipment and operating being 1.08 per cent in 1952 and 1.5 per cent in 1968.

Within higher technical education itself the breakdown of expenditure has followed the pattern set out below:

- staff costs: 49.17 per cent in 1968 as against 37.55 per cent in 1952;
- appropriations for equipment and operating: 14.51 per cent in 1968 as against 26.96 per cent in 1952;
- appropriations for welfare and assistance to students: 36.32 per cent in 1968 as against 35.49 per cent in 1952.

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1) In 1952, this sector consisted of the Conservatoire national des arts et métiers, the Institut supérieur des matériaux et de la construction mécanique, the Paris Ecole centrale des arts et manufactures and the Ecole centrale de Lyon.

As there has been little change in the share attributed to assistance, the proportion taken up by operating expenses has diminished to the advantage of staff costs.

This sector is nevertheless still a very weak one bearing in mind the importance of training technicians.

Universities, libraries, major establishments. This sector of higher education includes universities, the Ecole Pratique des Hautes Etudes and Instituts Nationaux des Sciences Appliquées at Lyon, Toulouse and Rennes, observatories, university libraries and central lending libraries, and major establishments whose function is not that of teaching, namely: Collège de France, Institut d'Hydrologie et de Climatologie, Museum National d'Histoire Naturelle, Service de Muséologie and Institut de France. This therefore excludes both higher technical education dealt with in the previous section and higher training establishments for teachers and research. Moreover, the amount of the appropriations as given does not include the subsidies for "scientific research" to these major establishments which we have added to the appropriations for research included under the heading "Research".

Naturally, universities take up most of this sector and it is they which show the greatest growth, which is linked with the increase in student enrolments. As regards libraries, the increase is very small.

The sector as a whole at present accounts for 11.5 per cent of ordinary expenditure of the Ministry of Education as against 7.14 per cent in 1952, an increase from index 100 to index 1,450 (932 in francs at constant prices).

If we examine the breakdown by sector of staff costs, we shall see that the percentage covering universities, libraries and major establishments has increased from 3.32 to 8.6. This increase is not merely linked with the increase in enrolments, it also reflects the upward adjustment of teachers' salaries during the period under review.

The appropriations for equipment and operating costs fell in their turn from 25.36 per cent to 20.4 per cent and the appropriations for assistance remained practically at the same level, accounting for 26.02 per cent of the chapter in 1952 and 27.3 per cent in 1968.

The breakdown of the various chapters of expenditure within this sector showed the following trends:

- staff costs: 60.6 per cent in 1968 as against 38.61 per cent in 1952;
- appropriations for equipment and operating: 20.33 per cent as against 27.2 per cent in 1962;
- appropriations for welfare and assistance to students: 19.07 per cent in 1968 as against 34.19 per cent in 1952.

Thus, in relative terms there has been an appreciable drop in appropriations for assistance, which reflects the fact that the amount allocated for scholarships has increased only slightly although their number has increased faster than enrolments, and that there has been considerable improvement in appropriations for staff due both to the increase in numbers and to the adjustment of salaries.

Research. The share of research in the operational budget shows considerable change during the period 1952-1968 and reflects further transfers of liability to the state.

In 1952, the greater part of the allocation for research took the form of an operating subsidy to the National Centre for Scientific Research (CNRS). This allocation accounted for 21.97 per cent of appropriations for equipment and operating, and 1.68 per cent of total appropriations for operating expenditure of the Ministry of Education.

The appropriations for research have increased notably since then, rising from index 100 to index 2,677 (1,713 in francs at constant prices) and they account for 5 per cent of the Ministry's operating expenditure.

The amount allotted now includes appropriations for personnel (3.4 per cent of the chapter) and appropriations for equipment and operating (19.9 per cent of the chapter).

It is important to stress that analysis of appropriations for research should not be made independently of analysis of higher education: it may be taken that 2.8 per cent should be deducted in 1968 from appropriations for universities and added to those for research in order to take into account the fact that university teachers must devote half their time to research activities.

Teacher training establishments. This sector includes expenditure on the various establishments concerned with training teachers and coming under the Ministry of Education(1).

Appropriations for such establishments have remained at a fairly steady level for some years; nevertheless, since 1952, they have increased more rapidly than appropriations for operating expenditure as a whole. They have risen from index 100 to index 1,289 (827 in francs at constant prices). This increase would seem at first sight to have been for the benefit of the staff; however, it should be mentioned that during the period 1952-1968 training institutes for secondary teachers (IPES) have been set up and the students of such institutes are paid. Accordingly, their salaries have been added to the amount of staff remuneration.

It should be noted that before IPESs came into existence, assistance in the form of scholarships was extensively provided and was comparable in amount to the "pre-salaries" of student teachers in 1968.

As in all the other sectors, the upward adjustment of teachers' salaries has given proportionally greater prominence to the chapter of staff costs.

Co-operation. This chapter represents only one-thousandth of the operating expenditure of the Ministry and might therefore be regarded as negligible.

However, it is necessary to recall that the greater part of expenditure on teaching overseas does not appear in the budget of the Ministry of Education but in that of the Ministry of Foreign Affairs. The figures in the operational budget are thus not representative.

The only amounts given here are appropriations for inspection and those allotted for practical training periods for foreign teachers and information courses for French teachers, as well as various operating subsidies. Also included are study and travel grants for French children living abroad, in the French overseas départements or territories.

Central administration and joint services. For 1968 this heading covers expenditure relating to the central administration, group purchases of equipment for state education within the Inspectorate-General, services at academic region and département level, agencies for supplying teaching documentation, and the university Office of Statistics and school and vocational documentation. In addition, in 1952, we have also

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1) Excluding the Ecole Nationale Supérieure d'Education Physique, but including the Ecole des Chartes which is a Grande Ecole coming under the Ministry of Education.

included expenditure such as that on school and university health services which for lack of suitable criteria we were unable to break down as between levels of education.

Taken as a whole such expenditure has increased twice as fast as the ordinary expenditure of the Ministry of Education; it rose between 1952 and 1968 from index 100 to index 1,995 (1,281 in francs at constant prices) and this rate of increase applies equally to staff costs and expenditure on equipment.

Such expenditure now represents 3 per cent of total operating expenditure, as against 1.36 per cent in 1952.

The increase in staff costs, ignoring the adjustment in salaries, is attributable mainly to expansion of services at academic region and other local levels, to the setting up and expansion of teaching documentation services, to the guidance services, the university statistics office and audio-visual aids.

Moreover, the increase as shown is, in fact, lower than it would be in practice if it had been possible, from 1952, to break down as between levels certain administrative and secretariat costs; however, it has not been possible to do this due to a lack of criteria on which to base such a distribution.

* * *

This general analysis shows that the chapter "Appropriations for equipment and operating" has received the greatest increase. However, it accounts for only 11.42 per cent of ordinary expenditure, while nevertheless being four points up on 1952.

On the other hand, appropriations for assistance have risen more slowly than average ordinary expenditure so that they now represent only 8.02 per cent of the total as against 9.38 per cent in 1952. Staff costs now account for a smaller percentage of overall ordinary expenditure: they account for 80.56 per cent as against 82.96 per cent in 1952. This is in line with the general tendency in education according to which audio-visual aids, laboratory equipment, etc., account for an increasingly large share which is likely to increase still further.

Among the various sectors examined, general secondary education shows the greatest increase.

Conclusion

In concluding this examination of the trend of the national education budget, we must emphasize that, at present, it is impossible to calculate in a precise manner recurrent unit costs because of the absence of any detailed information either on the characteristics of the pupils from the time of entering the system to the time of leaving it, or on the financial resources allocated to the education system to cover operational costs of human and material resources.

The "Education Nationale" resources index, now being compiled, will help to prevent votes for new buildings being used for the unplanned replacement of old buildings. The establishment of individual records for teaching staff will lead to better assessment, both quantitatively and qualitatively, of new recruitment requirements and the needs in regard to updating the knowledge of existing teaching staff in the various categories.

Since, like all French planning, educational planning has a guiding rather than an authoritarian role, it is also surprising that the ever heavier burdens of operating costs assumed by the various bodies responsible for national education should not have been made the subject of forecasts at least similar in spirit to those worked out for teaching staff. The growth in numbers of pupils at all levels, simultaneously or in succession, has resulted in a rate of investment that has, inevitably, stepped up operating costs. In recent years the expansion and organisation of higher education has sometimes revealed, as the year proceeded, that the budgetary allocation made was inadequate. Pluri-annual forecasts of operating appropriations published along with proposals for staggering investment appropriations might have helped the progress expected from the considerable effort in capital investment to be more easily achieved.

The scale of the financial contribution required from the country for the training of highly qualified personnel at the various levels might perhaps, in view of its size, have prompted at an earlier date some interrogation, reflection and research into the real cost of a graduate and the very nature of the knowledge it was desirable to impart to him. In view of the real output of the education system analysed in Part Two which follows, it might have brought about more rapid changes in the system.

PART TWO

OUTPUT AND DEMOCRATISATION OF THE EDUCATION SYSTEM

Both from the individual's point of view and that of society, an education system should provide for the students within it, in the shortest possible time, a training suiting their tastes and aptitudes and enabling them thereafter to assume their place in active life.

The degree to which a system satisfies the requirement can be measured by its rate of return, i.e. the time students take to go through each stage and the number of them that complete it.

Chapter I

OUTPUT OF THE EDUCATION SYSTEM

In this chapter we shall analyse repeats, dropouts and examination failures.

A) Repeats

1. In elementary education

Elementary education, common to all and taking in children at the beginning of their scholastic career and theoretically at the same age - six years - should have a low repeating rate. But this is by no means the case, as is shown by the study carried out by the Ministry of Education on the "Déroulement des scolarités dans l'enseignement primaire(1)" (Enrolment Progression in Primary Education) from which the following information is taken.

TABLE 45

Trend of repeating rates in primary education(*)

Year		Preparatory course	Elementary course 1st year	Elementary course 2nd year	Intermediate course 1st year	Intermediate course 2nd year
1963-64	B	37.0	22.6	20.3	24.2	19.4
	G	33.0	19.6	18.2	22.7	19.8
1964-65	B	36.0	22.9	20.7	25.1	20.3
	G	32.0	20.3	18.9	23.8	21.3
1965-66	B	35.2	22.9	20.3	24.4	18.6
	G	31.0	20.1	18.8	23.7	20.8
1966-67	B	34.7	22.7	20.0	24.0	19.1
	G	30.4	20.1	18.2	22.3	19.7

(*) Refer to Etudes et Documents No. 9, op. cit. for calculation methods and assumptions.

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1) Etudes et Documents No. 9 - 1968, Ministry of Education - Service central des statistiques et de la conjoncture.

These figures are high in all classes but particularly so in the preparatory course, and one is entitled to question the method and content of teaching that seems to be beyond the absorption of nearly a third of the pupils it is intended for, and therefore unsuited to their needs, even allowing for handicapped children for whom no place could be found in special establishments or who were simply not sent there, and children of foreign origin.

The frequent multiple repeats explain why it takes 6.5(1) school years for boys and 6.4(1) years for girls to complete full primary education and why the theoretical five-year period applies to only 24 per cent of the boys and 30 per cent of the girls.

The study referred to also analysed the evolution of an intake of pupils entering their preparatory course in 1962-1963, on the basis of a number of assumptions. The results are given in Table 46.

TABLE 46

Progression of schooling of pupils entering the Preparatory Course for the first time in 1962-1963

	Normal schooling	1 year behind	2 years behind	3 years behind	4 years behind	5 years behind
Boys	24.1	29.5	25.0	13.5	5.6	2.3
Girls	27.3	31.0	23.7	11.8	4.5	1.7

It can be assumed that the children four years or more behind fall into the category of special education, but it is still a fact that 68 per cent of the boys and 66.5 per cent of the girls have repeated at least once. These repeats obviously determine the age of school-children finishing their elementary education. In 1965-1966 only 50 per cent of the boys and 52 per cent of the girls in the second year of the intermediate course were of normal age (ten) or under. Yet age has a considerable bearing on their streaming when they go into the 6ème (first year of secondary education) (2). The younger they are the better their chances of going into secondary education, particularly as regards the lycées, and of staying there.

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1) These figures have been worked out from the statistical Table 46 by multiplying each proportion of pupils by the corresponding number of years of schooling and adding them together, thus giving the total number of years for 100 pupils. The figures quoted in Etudes et Documents are higher, at 7.22 and 6.94, but do not seem to correspond to the evolution of the group concerned in Table 46 since 78.6 per cent of the boys and 82.0 per cent of the girls in this cohort completed their studies in under seven years.

2) In this and many other studies the importance of age in scholastic success is often stressed. It should be noted that age itself has no effect: it is purely an index of how well or ill-suited the child is to the instruction received. Pupils of normal age or under are those whose form of intelligence and aptitudes match the teaching at present offered in schools and who therefore are perfectly suited to it.

TABLE 47

Situation in 1962-1963 and 1966-1967 of pupils leaving CM2 (intermediate course, second year) in 1961-1962 according to date of birth

(per 1,000 pupils of each age group, in 1961-1962)

School year	At school	Not at school	Short vocational course	Primary school-terminal course	Secondary education												
					CEG				Lycée						Total		
					6ème	5ème	4ème	3ème	6ème	5ème	4ème	3ème	2ème	1ère	CEG	Lycée	Total
Children born in 1946, 1947, 1948 (4.6% of original batch from CM2)																	
1962-63	544	456	119	379	29				17						29	17	46
1966-67	36	964	27				1					2	6		1	8	9
1949 (1st semester) [5.6%]																	
1962-63	994	6	8	836	107				43						107	43	150
1966-67	222	778	152				6	23				4	35	2	29	41	70
1949 (2nd semester) [7.6%]																	
1962-63	995	5	6	810	119				60						119	60	179
1966-67	289	711	199				5	31			4	10	40		36	54	90
1950 (1st semester) [19.6%]																	
1962-63	1,000		1	534	291				174						291	174	465
1966-67	586	414	339				9	78			2	53	104	1	87	160	247
1950 (2nd semester) [19.1%]																	
1962-63	1,000		1	506	305				192						305	192	497
1966-67	676	324	356			1	14	101			3	73	127	1	116	204	320
1951 (1st semester) [20.6%]																	
1962-63	1,000			243	371				386						371	386	757
1966-67	853	147	183			1	36	157			22	196	258		194	476	670
1951 (2nd semester) [16.0%]																	
1962-63	1,000			212	342				446						342	446	788
1966-67	901	99	151				38	163			30	225	294		201	549	750
1952, 1953 [6.9%]																	
1962-63	1,000			140	270				590						270	590	860
1966-67	989	11	27				42	127			54	328	411		169	793	962

Source: Orientation et sélection scolaires. Cinq années d'une promotion: de la fin du cycle élémentaire à l'entrée dans le 2ème cycle du second degré, (streaming and selection of schoolchilren: 5-year's follow-up of a class from the end of elementary to entry into the 2nd cycle of secondary) by Messrs. Alain Girard and Henri Bastide. Population March-April 1969 - Table XV.

Table 47 shows the wide range of ages in CM2, the year of birth varying from 1946 to 1953. Children born in 1946, 1947 and 1948 were thus three, four and five years behind schedule when they came out of this class. Children of normal age (11) or under at the end of CM2 total only 43.5 per cent of the class. It is they - and the youngest of them in particular - who were most successful scholastically speaking since nearly half of those born in 1952 and 1953 were in the 2nde by 1966-1967 (411 out of 860 entering secondary education five years previously) compared with one-third of those born during the first semester of 1951 and less than one-quarter of those born in 1950 and 1949.

What is more, the oldest pupils, born in 1946, 1947 and 1948, left the education system either at the end of CM2 (456 out of 1,000 did not go back to school the following year) or during the years that followed: in 1966-1967 only 36 out of 1,000 were still pursuing their studies. Conversely the youngest, in the vast majority of cases, were still at school (from 853 to 989 for those born in 1951 or later) even though most of them were over the compulsory school-leaving age which, for children born before 1953, was still 14.

Lastly, as mentioned above, the streaming of pupils after CM2 varies greatly with their age. The likelihood of entrance into secondary education increases the lower the age and only young children - born in 1951 or later - were streamed at a ratio of 50 per cent or more into this education, whilst the oldest children - born in 1949 - found themselves back in primary school-leavers' classes where the chances of subsequent transfer into secondary are extremely slim. Choice between CEG and lycée - the latter offering the better chance for extended education - is likewise a function of age; only children aged 11 or under have a better chance of entering 6ème at a lycée than at a CEG.

Age is therefore a very important factor at the crucial point in schooling represented by transfer from elementary education, to other forms of education. It also affects the course of secondary education, but the proportion of "old" pupils continues to rise because of the repeats during these studies.

2. Repeats in Secondary Education

We have seen above how repeating ratios were very high in primary classes. They are less high in secondary education but it must be remembered that a large proportion of children have been streamed to primary school-leavers' or short vocational courses or are not at school at all. According to the Ministry of Education's statistics, the enrolment ratios in the 6ème were 45 per cent in 1958-1959, 50 per cent in 1961-1962 and nearly 70 per cent in 1965-1966.

Despite the selection taking place at the end of CM2 and the high repeating ratio in this class (20 per cent), the pupils in the 6ème in the following year still repeated at a rate of some 15 per cent. And whilst thereafter the number of repeats varied slightly with class and section, in 1966-1967 in classes for which information is available it was never less than 10 per cent of the class strength. The figure is highest in the terminal classes (Baccalauréat year) when it amounted to 28 per cent of pupils for all such classes in 1966. What is worse, the figures show a steady and fairly rapid increase between 1960 and 1966. For the terminal classes this growth may perhaps be explained by the elimination, in 1965, of the first part of the Baccalauréat which formed a first hurdle, but for the other classes it represents a serious problem and, as for primary education, prompts the question whether the content and methods of secondary schooling are in fact properly suited to the growing number of pupils for which they are intended.

TABLE 48

Proportion of repeats in state secondary schools (lycée and CEG)

	1960-61	1963-64	1966-67
Lycées			
6ème	12.0	12.2	15.3
Classical sections			
5ème	8.3	9.5	10.7
4ème	7.5	9.3	-
3ème	6.4	-	-
2nde	7.2	9.1	11.5
1ère	10.9	-	-
Modern sections			
5ème	11.7	13.6	16.5
4ème	9.9	11.0	-
3ème	10.5	-	-
2nde	10.1	13.4	16.1
1ère	17.6	-	-
Technical sections			
Industrial 2nde	-	7.6	8.8
Economic and social 2nde		11.0	15.3
Terminal classes			
Elementary mathematics	13.8	22.1	31.6
Experimental science	9.2	22.1	30.9
Philosophy	8.1	17.5	24.9
Mathematics and technical	-	13.2	25.9
Technical and economics	-	8.3	19.3
Other technical terminal classes	-	4.0	6.1
CEG			
6ème	10.0	9.8	14.2 (CES) 12.8
5ème	9.1	9.3	12.2 (CES) 11.3
4ème	9.0	10.2	-
3ème	6.5	8.1	-
Special 3ème	9.6	11.2	-

Sources: Information statistiques Nos. 45, 77, 107. Ministry of Education - Service central des statistiques et de la conjoncture.

Repeats of course affect progression through the classes and pupils find themselves, as the years go by, at different class levels. This has been shown in the study carried out by Messrs. Girard and Bastide on the progress of a cohort of pupils coming out of elementary in 1962 up to their entrance into the second cycle of secondary in 1966(1) which forms the basis of the following table.

TABLE 49

Retention in secondary education
(CEG and lycée)

School year	All	Normal schooling	Retention		
			1 year	2 or more years	Total
	Out of 100 pupils going up each year				
1962-63	55.1	55.1	-	-	-
1963-64	55.7	44.2	11.5	-	11.5
1964-65	55.4	34.8	19.9	0.7	20.6
1965-66	50.0	26.4	21.6	2.0	23.6
1966-67	44.6	17.9	23.1	3.6	26.7

About 55 per cent of the pupils leaving CM2 in 1962 (excluding the repeaters in this class) were streamed to lycée or college 6ème. The figure already included a number of pupils that had repeated one or more primary classes. Only 18 per cent (roughly one third) of this cohort reached 2nde five years later, i.e. had normal progress through school. Most of the remainder are still at school but 23.6 per cent (42 per cent of entries into the 6ème) are one year behind and 3.6 per cent (6.5 per cent of entries into the 6ème) are two or more years behind.

These retentions, accumulating first in primary and then in secondary schools, result in an over-age school population whose age departs further and further from the theoretical norm as class follows class (Table 50).

Despite the thinning out of pupil numbers due to the selective process at the end of primary school and later at the end of the first secondary cycle, the proportion of retained pupils continues to grow, reaching two-thirds in the terminal classes - the explanation of the advanced age of most Baccalauréat candidates.

As Table 51 below shows, less than one-third (30.9 per cent) of candidates entered for the Baccalauréat examination are 17 or under, one-third are one year behind and over one-third are 2 or more years behind. These proportions are slightly different for those successfully passing the examination (34.5, 33.6 and 31.9 per cent, respectively) because of the differences in the pass ratio which is higher the younger the candidates. Here again, age is a success factor.

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1) For source see Table 47.

This table relates to all the Baccalauréat series taken together and conceals some appreciable differences across the series from both age and success viewpoints. Series C (mathematics and physical science) has the youngest candidates (49 per cent of entries, 54.5 per cent of passes) and the most widely varying pass ratio: from 91.5 per cent for the youngest to 36.9 per cent for the oldest candidates. At the other extreme, series A (philosphy, humanities) has the highest proportion of candidates aged 20 and over (14.2 per cent).

Regarding repeats in secondary education, it is noteworthy that by way of contrast to the situation applying to the general schooling provided in lycées and CEGs, the repeating ratios in technical education are relatively low: 2 per cent in the first year of the two-year Certificat d'Aptitude Professionnelle (Trade Proficiency Certificate) course and 1.5 per cent in the first year of the Brevet d'Enseignement Professionnel (Trade Certficate) course in 1967-1968 (see Ministry of Education Note d'Information No. 11 of 21st February, 1969, on school history of second-degree state education pupils at 6ème and 2nde class levels).

B) Examination failure and dropouts in secondary education

We have seen how, throughout their primary and secondary schooling, children are subjected to a severe selection process resulting either in repeats, or in the dropping out that this often leads to. It might be thought, therefore, that pupils who actually sit for the various examinations would have every likelihood of passing. But for a large number of them this is not the case, the number varying with the course followed (see Table 52), and it looks as though examinations are treated as another selection mechanism for higher education rather than the ratification of the studies pupils have followed. This means that in many cases children leave school with no educational certificate. According to Messrs. Giraud and Bastide's study on the school progress of a cohort of pupils from the end of elementary up to entrance into the second cycle of secondary(1), 8 per cent of such a cohort leave school during the two years following the end of their primary schooling without completing the end-of-course classes or receiving any vocational training, 19 per cent start their working life during the following two years without any vocational training and 6 per cent during the next year, either at the end of the 3ème class or at the end of the second or third year of the short technical course, without, for the most part, having obtained the Certificat d'Aptitude Professionnelle. To these 33 per cent must be added those leaving primary school after multiple repeats and those who will leave during the second cycle of secondary education or after failing the Baccalauréat; these latter will have completed a minimum of 12 years at school and at best will have no more than the Brevet d'Etudes du Premier Cycle.

It is clear from what has been said that the vast majority of s[illegible]ents have left the education system at the end of primary school, during secondary, or after failing their examinations. Only those who somehow or other have managed to overcome all the hurdles, and can be considered on these grounds particularly well prepared to receive a higher education, go on to university. But the situation in this stratum of education is no better than in those preceding it.

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1) Op. cit. (see Table 47).

C) Repeats and dropouts in higher education

Since the study-year structure has been applied to the science and humanities faculties only recently it is not possible to work out repeating ratios for them. But it can be done for other faculties: law, medicine and pharmacy and for the first university year in all disciplines. This first year incidentally is a difficult hurdle and pass ratios are very low.

TABLE 50

Age distribution in various classes in 1965-1966

Class Normal Age	Preparatory course 6	2nd year Intermediate class 10	6ème 11	4ème 13	2nde 15	Terminal 17
Number of pupils	1,111,359	923,772	572,661	428,611	295,284	221,772
	%	%	%	%	%	%
Ahead	11.9	8.8	8.9	7.3	6.6	7.1
Normal age	67.2	42.6	42.3	33.3	27.3	24.8
Total	79.1	51.4	51.2	40.6	33.9	31.9
One year behind	15.1	33.0	38.1	39.6	37.8	35.5
2 or more years behind	5.8	15.6	10.7	19.8	28.3	32.6
Total	20.9	48.6	48.8	59.4	66.1	68.1
Grand total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Tableaux de l'Education Nationale, 1967 edition, Institut pédagogique national, pp. 197-199.

TABLE 51

Age distribution of Baccalauréat candidates, 1968

All series	Age of candidates on 1st January, 1968							
	16 or under	17	18	19	20	21	22 or over	Total
Sat	6.8	24.1	33.2	23.2	8.4	2.4	1.9	100.0
Passed	7.9	26.6	33.6	21.9	7.2	1.5	1.3	100.0
Pass ratio in %	91.3	87.4	80.4	75.2	67.9	53.0	54.4	78.6
Actual numbers								
Sat	14,680	51,910	71,610	49,999	18,130	5,174	4,095	215,689
Passed	13,390	45,055	56,930	37,095	12,210	2,540	2,202	169,422

Source: L'âge des candidats au baccalauréat. Année 1968 (Age of Baccalauréat Candidates, 1968). Note d'information No. 20, 19th May, 1969, Ministry of Education; Service central des statistiques et de la conjoncture.

TABLE 52

Pass rates for various examinations and certificates

(in per cent)

General education	1957-58	1960-61	1963-64	1966-67
Primary school certificate	81.7	81.1	80.3	79.1
First cycle certificate	62.2	75.9	74.0	73.3
Baccalauréat, first part	58.9	58.9	59.9	-
Baccalauréat, second part	66.5	60.5	62.7	59.6
Technical education	1955-56	1959-60	1962-63	1965-66
Trade proficiency certificate	57.7	60.2	55.5	53.1
Trade certificate	34.6	30.9	44.6	43.6
Industrial certificate: final examination	67.1	75.4	66.5	53.5
Commercial certificate: second degree	62.6	89.3	73.6	73.3
Higher commercial certificate - part 2	43.7	69.4	70.8	75.1
Social education certificate - part 2	68.4	87.7	81.0	59.4
Technician's certificate	44.7	48.3	57.4	42.5
Higher technician's certificate	-	-	54.0	54.8

Source: Informations Statistiques - Ministry of Education - Service central des statistiques et de la conjoncture.

TABLE 53

Student streaming at the end of the first university year, 1965-1966

	Law	Science	Humanities	Medicine	Pharmacy
Enrolments	25,695	38,524	44,942	12,923	4,578
Streaming %	100.0	100.0	100.0	100.0	100.0
Leavers	33.6	32.2	21.9	16.8	21.1
Repeaters	30.1	29.3	27.7	30.3	36.6
Passes	36.3	38.5	50.4	52.9	42.3

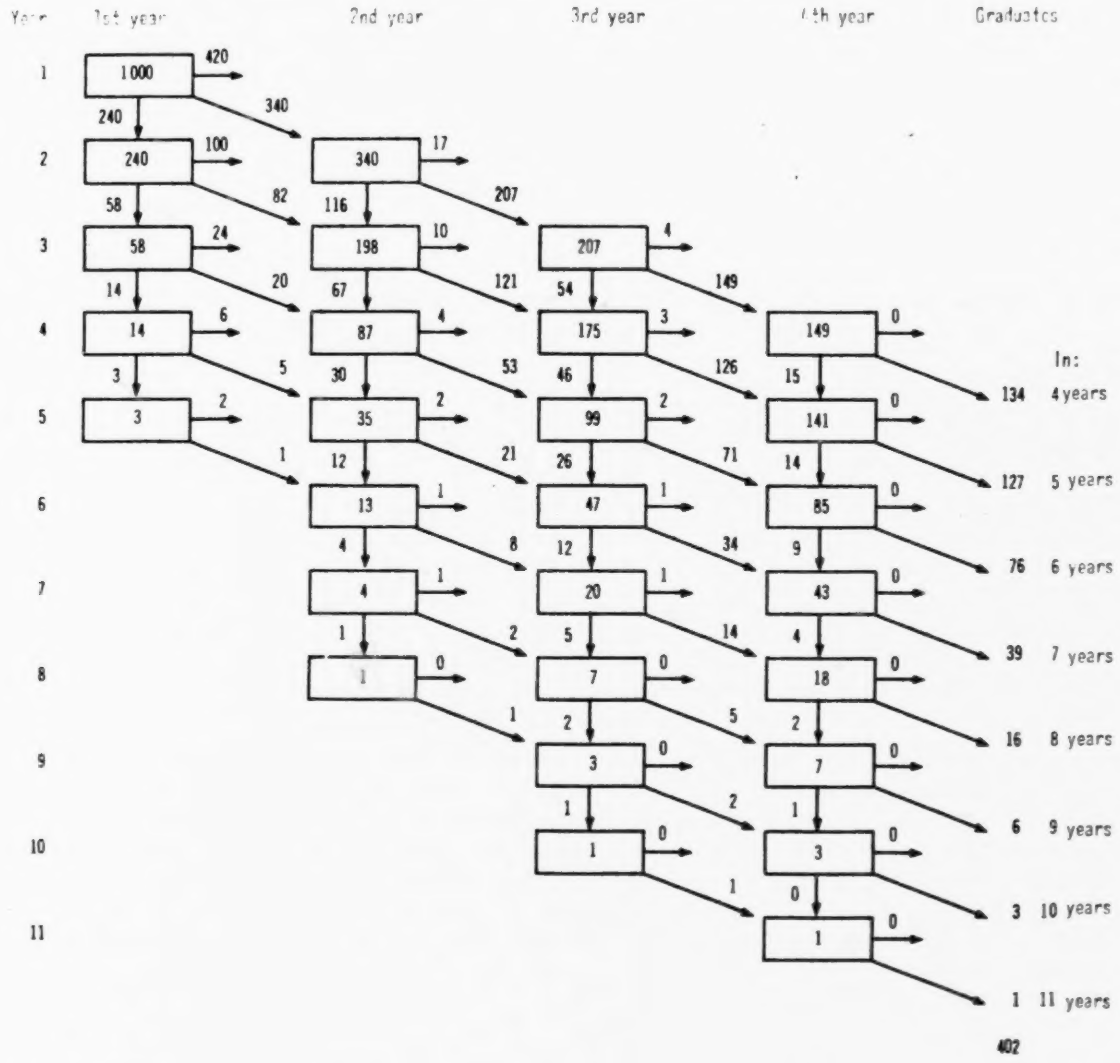
Source: Etudes et Documents No. 12 - 1968. Ministry of Education - Service central des statistiques et de la conjoncture: Les étudiants en France. Problèmes et évolution de l'enseignement supérieur de 1960 à 1967. (Students in France. Higher education problems and trends from 1960 to 1967.)

Not only are the repeating rates high, at 27.7 to 36.6 per cent of students, depending on the faculty, but so is the number of students giving up the course they had chosen a year or more before, and whilst a number of them do switch to other courses many enter the labour force with the Baccalauréat as their only qualification.

For the medicine and law faculties we have worked out the scholastic progress of an imaginary intake by the method developed by Mr. Daniel Blot in "Les déperditions d'effectifs scolaires: analyse théorique et application" (Student Wastage: Theoretical Analysis and Application) Tiers Monde, April - June 1965, using the dropout, repeating and pass rates given in Etudes et Documents No. 12 (see note to Table 53). Table 54 shows an example of the application of this method to the law faculty in 1961-1962. The dropout, repeating and pass rates in a given scholastic year have been assumed to be independent of students' previous scholastic background, in other words they have been taken as the same for all students whether the students are taking this year of the course for the first, second or third time, and the rates have been considered to be constant in time. (For a more detailed account of the method refer to Mr. Blot's study.)

TABLE 54

Progress of an intake of 1,000 students entering the first year of the Law and Economics Faculty in 1961-1962


Year
1st year
2nd year
3rd year
4th year
Graduates
1
1000
420
340
240
2
240
100
82
340
17
207
58
116
3
58
24
20
198
10
121
207
4
149
14
67
54
4
14
6
5
87
4
53
175
3
126
149
0
3
30
46
15
In:
5
3
2
1
35
2
21
99
2
71
141
0
134
4 years
12
26
14
6
13
1
8
47
1
34
85
0
127
5 years
4
12
9
7
4
1
2
20
1
14
43
0
76
6 years
1
5
4
8
1
0
1
7
0
5
18
0
39
7 years
2
2
9
3
0
2
7
0
16
8 years
1
1
10
1
0
1
3
0
6
9 years
0
11
1
0
3
10 years
1
11 years
402

Time in years: 1315 678 559 447

Dropouts: 552 35 11 0

Table 54 shows that out of 1,000 first-year students 402 will acquire their degree, but after varying lengths of time, only one-third graduating within the minimum period, i.e. four years; on average it will have taken them 5.3 years' study. What is more, to produce these 402 graduates the education system will have had to provide 2,999 years of study - the total length of time in years - i.e. 7.5 years per graduate. Lastly, it is not 402 students out of 1,000 who will leave the faculty after the first year but 552 since a certain number of repeaters will leave during the following year.

Table 55 sums up the results obtained, using the same method, for the law faculty in 1966-1967 and the medicine faculty in 1964-1965 and 1966-1967.

TABLE 55

Progress of studies in the faculties of law and medicine

	Law and Economics Faculty	Medicine Faculty	
	1966-67	1964-65	1966-67
Number of graduates per 1,000 first-year students	429	534	581
Proportion of graduates with normal progress	28%	19.5%	25%
Average length of study of a graduate in years	5.5	9.2	8.5
Average number of years of study supplied by the system to "produce" a graduate, in years	7.9	11.6	11.1
Dropouts at the end of the first year of study	481	253	241

For the law faculty there would appear to be an improvement in the gross "output", i.e. the number of graduates, from 1962 to 1966, doubtless attributable to the lower dropout rate after the first year; but, conversely, the average number of years of study and the total number of years of study per graduate have increased. For the medicine faculty the situation seems to have improved in all respects between 1964 and 1966: higher number of graduates, fewer dropouts after CPEM (considered here as the first year of study), reduced number of years of study per graduate and shorter average length of study.

TABLE 56

Progress of studies in faculties of the humanities

	Sorbonne (Paris) Students registered in 1962-1963 and followed up to 1966-1967 Out of 1,000	Toulouse Students registered in 1956-1957 and followed up to 1964-1965 Out of 1,000
Dropouts before Propédeutique	465	461
of which not present at examination		273
Propédeutique passes	535	539
of which: at first attempt	458	
at subsequent attempt	77	
Number not registering for second cycle	52	
Dropouts after second cycle	145	294
of which: those with no certificate		159
those with one certificate		55
those with two certificates		40
those with three certificates		40
Graduates	145	245
Still studying	193	33 (distributed as situated at the time)
Average length of study in second cycle	3 years	3.85 years
Percentage of graduations in two years	36.6%	12.6%

Source: Sorbonne: reconstructed from Noëlle Bisseret's study: "La carrière scolaire d'une cohorte d'étudiants inscrits en Propédeutique en 1962 à la Faculté des Lettres de Paris: les filières d'orientation et les facteurs de réussite", (Scholastic Career of an Intake of Students Registering at Propédeutique level in 1962 in the Paris Humanities Faculty: Streaming Patterns and Success Factors) - Centre for European Sociology, June 1968.

Toulouse: reconstructed from a study by Bernard Kayser and Paul de Gaudemar: "Dix années d'une génération d'étudiants de la Faculté des Lettres et Sciences Humaines de Toulouse. Recherches sur les étudiants inscrits en Propédeutique en 1956-57". (Ten Years of a Generation of Students in Toulouse University Humanities and Human Science Faculty. Research on Students Registering at Propédeutique Level in 1956-57): Association des publications de la Faculté des Lettres et Sciences Humaines de Toulouse, 1967.

Although based on a certain number of assumptions and not corresponding strictly to reality, the above information does nevertheless provide some rough figures focusing attention on some of the weaknesses of higher education: low output, excessive length of studies, high cost per graduate.

The investigations carried out in the science and humanities faculties reveal a still worse situation. In Tables 56 and 57 an attempt has been made to summarise the main characteristics of the progress of studies in these faculties. For the humanities faculty the results come from a study of a year's intake: the same students were followed throughout their scholastic career; but for the science faculties the figures are the result of a study of all students registered at a given moment whatever yearly intake they belonged to.

TABLE 57

Progress of studies at the Paris Science Faculty

		1961-62	1965-66
First cycle (excluding CPEM)			
Students sitting examinations as a percentage of those registering for examination	July	87.4%	86.7%
	October	70.2%	75.3%
Students passing examinations as a percentage of those sitting	July	35.2%	46.4%
	October	39.1%	35.8%
Dropouts after passing Propédeutique			14.2%
Average length of Propédeutique studies for students registering for second cycle			1.4 years
Second cycle			
Students sitting examinations as a proportion of those registered for examination			74.5%
Students passing examinations as a percentage of those sitting			45.5%
Graduates as a percentage of second cycle students		13.6%	9.4%
Average length of study to obtain a degree			3.7 years
Post-graduate			
Number of doctorates as a percentage of post-graduate students			14.2%

Source: Enquête sur les étudiants de la Faculté des Sciences de Paris. (Survey of Paris Science Faculty Students.) Special edition of Bulletin d'Information de la Faculté des Sciences - September 1967.

According to the above survey, 64.4 per cent of students giving up their studies during the second cycle do so without acquiring any certificate and after staying an average of 1.5 years in this cycle; 13.9 per cent leave with one certificate obtained after 2.4 years of study, 14.7 per cent with two certificates also after 2.4 years of study, 4.2 per cent with three certificates after 3.7 years and 2.7 per cent with four certificates after 4.2 years spent in the faculty.

Although the above figures relate to particular cases and cannot therefore be generalised, they are nevertheless symptomatic and are supported by other studies we have not quoted.

Completing the analysis of the progress of university studies, Table 58 lists the pass rate for examinations at the various levels. As might be expected from the above analysis, failures are high in number mainly during the early years. The progressive elimination of students enables those who stay in the system to succeed in most cases in the final year examinations.

There is no information available for other kinds of higher education. For the Grandes Ecoles, students who have been subjected to a strict selection process on admission to the preliminary classes and later to the Ecoles themselves have a far better chance than those in the faculties of obtaining their degree or other qualification and experiencing normal scholastic progress from the point of view of length of studies.

In the foregoing section we have studied the scholastic progress of pupils and students as a whole. We now need to see whether the characteristics of the French education system as they are revealed by this analysis apply uniformly to all pupils or whether some of them are placed at a disadvantage because of their social or geographical origins. It is a fact that the considerable increase in the numbers being educated in recent years has resulted in children being at school who previously did not find their way into secondary education and finished their schooling in the so-called "primary" establishments when they reached the compulsory school-leaving age. The question is one of seeing whether education has adjusted to its new responsibilities and has allowed these children to acquire the knowledge they need to be able to adapt to life at work and in society.

TABLE 58

Pass rates for university examinations

(passes as a percentage of those present in the first session)

Faculties	1956-57	1960-61	1963-64	1965-66
Law and economics				
Degree: first year	53.1	52.2	49.8	53.0
third year	78.0	83.0	76.4	76.3
fourth year	-	96.3	91.6	89.3
Sciences				
Preliminary certificate for medical studies				
- for dental course	66.4	62.9	41.6	45.2
- for medical course	71.5	70.9	55.7	66.0
Preliminary higher studies certificates				
- general mathematics and physics	43.0	47.2	47.0	51.4
- mathematics, physics and chemistry	48.7	41.3	45.0	43.9
- physical, chemical and natural science	48.5	49.3	54.8	60.7
Degree-course certificates		71.6	67.7	68.0
- mathematics	57.2	..	..	..
- physical science	70.4	..	..	..
- natural science	91.2	..	..	..
Humanities				
General literature course certificates				
- classic	67.9	70.2	69.1	72.0
- modern	48.4	58.3	57.6	59.4
Degree-course certificates			59.9	63.0
- philosophy	70.6	74.6	..	..
- humanities	57.9	61.9	..	..
- history and geography	71.8	70.5	..	..
- modern languages	54.4	57.1	..	..
Medecine				
first year	63.9	69.7	59.2	74.8
second year	80.5	77.5	77.0	88.3
third year	91.0	93.1	87.7	89.0
fourth year	88.4	93.5	93.6	83.5
fifth year(1)	97.4	94.4	94.9	90.6
Dental Surgery				
first year	78.3	..	81.2	81.1
second year	88.6	..	81.7	89.0
third year	88.7	..	88.0	88.8
fourth year	91.9	..	90.2	91.4
fifth year	96.2	..	95.9	94.0
Pharmacy				
first examination	61.8	61.0	58.3	47.7
second examination	80.0	70.8	77.2	78.6(2)
third examination	97.9	94.1	93.9	90.7(2)

Source: *Information statistiques*, Ministry of Education Nos. 9, 47, 80, 102, 103.

1) Results of clinical examinations sat during 6th year are not shown. Pass rate is about 95 per cent.

2) New system.

Chapter II

PROGRESS OF STUDIES ACCORDING TO PUPILS' SOCIAL ORIGIN

Unfortunately there is no information available on the progress in primary schooling according to the social category to which pupils belong. This is a serious omission because the retention rates during this stage of education are particularly high, as we saw in the preceding section, and raise the question of the suitability of elementary education for all children.

A) Situation at the end of primary education

The only aids to judgement we have in this respect are the age, scholastic quality and retention rates for CM2 pupils (last year of primary education) by social origins (see Table 59).

At the end of their primary schooling, children's scholastic situation varies widely according to whether they belong to a high social class or not. Here it should be noted that whilst social origin is always defined by the profession or calling of the head of the family, the influence this has on the child's scholastic performance depends less on the income it brings in than on the cultural level it implies. Given equal education qualifications of the father, children from families of differing income groups have nevertheless roughly the same scholastic success; but for equal income, children will be more successful the higher the educational qualifications held by the father. To return to the information given in Table 59, it can be seen that pupils' scholastic ability (that is,the assessment of their school work by their teachers) varies with their origin. Nearly twice as many children of upper management are considered good or excellent as those of manual workers and, conversely, three times as many children of such workers have below average to bad scholastic ratings as those of upper management. Similarly the age at which children finish CM2 shows marked differences. If they are from the upper classes their chances of being at the normal age or ahead are much greater than if they come from the working class (76 per cent as against 36 per cent) and those of being two or more years behind are much lower (5 per cent as against 17 per cent). Finally the chances of having to go through CM2 a second time, whilst high for all, are particularly so (20 to 22 per cent) for children from lower class backgrounds.

As we shall see later on, these factors of age, scholastic performance and CM2 repeating have considerable influence on streaming at the time of entrance into secondary schooling so that it can be said that the manner in which children respond to their elementary education largely conditions their scholastic future(1).

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(1) Problems concerning primary teaching are mentioned in Book II.

TABLE 59

Scholastic ability, age and repeating rates for CM2 pupils according to socio-occupational category - June 1962

Socio-occupational category of head of family	Scholastic ability				Age			Repeating rate in CM2
	Excellent & good	Average	Below average or bad	11 and under	12	13	14 & over	
Agricultural workers	33	37	30	27	44	22	7	22
Farmers	43	33	24	41	44	13	2	22
Manual workers	35	35	30	36	45	17	2	20
Traders and self-employed craftsmen	44	34	22	51	38	10	1	19
Clerical and other staff	45	34	21	48	39	11	2	20
Junior executives	64	25	11	71	23	5	1	15
Industrial entrepreneurs and the professions	56	33	11	69	25	5	1	15
Senior executives	62	28	10	76	19	4	1	12
Total	41	33	26	45	40	13	2	20

Source: These figures are based on a study of a class of pupils carried out and published by the Institut d'Etudes Démographiques.

Regarding scholastic ability and age see "Nouvelles données sur l'orientation scolaire au moment de L'entrée en sixième - I: Age, orientation scolaire et sélection", (New data on streaming on entry into the "sixième" - I. Age, streaming and selection) by Alain Girard et Paul Clerc, Population No. 5, October-December 1964, and for repeating rates: "Enquête nationale sur l'entrée en sixième et la démocratisation de l'enseignement". (National enquiry on "sixième" intake and democratisation of education) by Alain Girard, Henri Bastide and Guy Pourcher, Population No. 1, January-March 1963.

B) Progression of a generation of pupils in secondary education

Much more information is available for analysing scholastic progress at secondary level than for that in the primary so that we can either follow the evolution of a batch of pupils on the basis of the enquiry carried out by the INED - already used for compiling Table 59 - or examine the distribution of pupils at various levels of secondary education (Ministry of Education statistics).

Children thus start their secondary education with differing schooling backgrounds depending on the social environment they belong to. Hence they are very unequally distributed according to the type of education considered. According to an enquiry(1) made by INED in 1953 in the Seine Département, children of operatives or labourers represented 54 per cent of the pupils in the primary terminal classes and under 10 per cent of those entering the 6ème. The related figures for children of senior civil servants, executive grades, entrepreneurs and members of the professions were 3 per cent and 57 per cent. Table 60 gives more detailed information on the 1962-1963 situation.

The information in this table is slightly different from that for 1953; the socio-occupational classification is not the same and the lycée 6ème classes are supplemented by those in the CEG. The figures nonetheless show that pupils leaving school after the CM2 and those in the primary terminal classes are for the most part of modest origins. What is more, the distribution is very different between the lycée and the CEG 6èmes. Children whose fathers are junior executives, members of the progressions and senior executives, represent 30 per cent of the pupils in the lycée 6èmes whereas their proportion of the total school population is only 12 per cent. Conversely, children of manual workers, agricultural wage-earners and of farmers who represent 58.2 per cent of the school population make up only 34 per cent of the numbers in the lycée 6èmes. A child of middle or upper social and cultural class background is therefore four times as likely to go into the lycée 6ème, where the possibilities of pursuing his studies up to baccalauréat are the best, as the child of modest parentage. In addition, even at lycée 6ème level social recruitment varies as between modern and classic sections, the latter being more highly populated by children of more favoured background: the professions and senior executives.

If the trend over time is considered of the numbers in classic and modern lycée 6èmes it is clear that they have been characterised by a very considerable growth, but that the representation of the various socio-occupational categories has remained practically unchanged (Table 61). The increase appears to have benefited all categories but has not lessened the disparities. Similarly, the distribution between classic and modern hardly shows any change. Children of members of the professions, who represented 11.8 per cent of pupils in the classic 6èmes and 4 per cent of those in the modern 6èmes in 1948, accounted for 12.6 per cent and 4.1 per cent, respectively, in 1956, whereas the corresponding figures for sons of manual workers were 5.5 per cent and 16.4 per cent in 1946 and 7.6 and 17.7 per cent in 1956.

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1) "L'orientation et la sélection des enfants d'âge scolaire dans le Département de la Seine", by Alain Girard: Population No. 4, October-December 1953.

For 1959-1960 and 1963-1964(1), allowing for the changes made to the socio-occupational classification after 1956, the situation has changed somewhat as regards the distribution of lycée pupils in general but the classic sections remain the province of the children of the well-to-do, (Table 62). The growth in the number of children from modest backgrounds enrolled for secondary education is largely due to the creation of the CEGs (where the chances of pursuing second cycle studies are relatively poor), more than to a change in social recruitment to the lycées.

The further children in the less favoured social classes advance through secondary school, the greater the difficulty they have in staying there; the relative proportion of these children therefore falls, entailing at the same time an increase in that of children from the more wealthy classes (Table 63).

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1) Latest year for which information is available.

TABLE 60

Social recruitment to the different streams after completion of elementary studies

(Percentages)

Social status category of head of family	Total school population	Dropouts	In primary terminal classes	CEG	Lycée
No occupation and others	2.9	8.0	4.0	2.0	2.0
Agricultural wage-earners	3.4	7.0	5.0	2.0	1.0
Farmers	15.2	18.0	19.0	12.0	9.0
Manual workers	39.6	52.0	49.0	41.0	24.0
Craftsmen and private traders	10.3	5.0	8.0	12.0	13.0
Clerical and similar staff	16.6	8.0	13.0	20.0	21.0
Junior executives	4.1	1.0	1.0	4.0	8.0
Professions	3.2	0.5	0.5	4.0	8.0
Senior executives	4.7	0.5	0.5	3.0	14.0
Total	100.0	100.0	100.0	100.0	100.0

Source: "Enquête nationale sur l'entrée en sixième et la démocratisation de l'enseignement". (National survey on sixième intake and democratisation of education) by Alain Girard, Henri Bastide and Guy Pourcher, Population No. 1, January-March 1963.

TABLE 61

Social origin of pupils in classic and modern lycée 6èmes from 1942 to 1956

(Percentages)

Year	Civil servants	Armed forces	Heads of firms commerce and industry	Independent means, no occupation	Farmers	Industrial workers	Self-employed craftsmen	Clerical etc. staff	Professions	Orphans	Total	
											%	Actual numbers
					Classical and modern education							
1942-43	22.8	4.7	16.9	3.6	7.1	8.3	8.9	19.0	8.6	0.1	100	36,531
1946-47	20.9	5.0	16.6	2.5	8.9	12.4	9.9	16.6	7.2	-	100	57,104
1948-49	21.7	4.6	16.0	1.3	7.8	11.3	10.0	17.5	7.8	2.0	100	54,080
1951-52	21.4	5.2	14.1	1.6	7.2	12.7	8.7	18.8	8.1	2.2	100	65,548
1954-55	21.9	5.6	13.1	1.7	6.5	12.4	8.6	20.1	8.7	1.4	100	84,430
1956-57	21.8	5.1	12.4	2.0	6.8	12.3	8.2	21.6	8.8	1.0	100	101,751
					Classical education							
1948-49	26.1	5.0	18.3	1.4	5.8	5.5	7.9	16.6	11.8	1.6	100	22,922
1951-52	25.3	5.7	16.2	1.7	5.6	7.2	6.7	17.4	12.5	1.7	100	28,405
1954-55	25.4	5.7	15.1	1.6	5.2	7.4	7.0	18.7	12.8	1.1	100	42,953
1956-57	24.8	5.2	14.0	1.9	5.6	7.6	6.8	20.7	12.6	0.8	100	51,943
					Modern education							
1948-49	18.0	4.2	13.8	1.2	9.8	16.4	11.9	18.3	4.0	2.4	100	26,146
1951-52	17.6	4.7	12.3	1.6	9.0	17.7	10.6	20.1	3.7	2.7	100	31,648
1954-55	17.7	5.5	10.8	1.9	8.2	18.3	10.3	21.6	3.9	1.8	100	39,226
1956-57	18.0	5.1	10.6	2.1	8.4	17.7	9.7	22.9	4.1	1.4	100	46,924

Source: "L'origine sociale des élèves des classes de sixième. (Social origin of pupils in 6ème forms), by Alain Girard, Population No. 1, January-March 1962.

TABLE 62

Social origin of 6ème pupils in lycées and C.E.G., 1959 and 1963

Year	Farmers	Agri-cultural wage-earners	Heads of firms	Industry	Commerce	Profes-sions, senior executives	Junior executives	Cleri-cal etc. staff	Manual workers	Hotel and domestic staff	Inde-pendent means, no occu-pation	Others	Total	
			Industry	Commerce	Self-employed craftsmen								%	Actual numbers
						Classical and modern lycées								
1959-60	6.5	1.3	1.9	9.0	6.0	14.8	14.9	17.9	18.6	1.2	1.7	6.2	100	14,504
1963-64	5.9	1.3	1.5	7.2	5.1	14.3	14.5	17.1	23.5	1.4	2.1	6.1	100	16,474
						Classical lycée sections								
1959-60	5.9	1.1	2.3	9.2	5.4	21.3	16.9	16.6	12.5	0.9	1.6	6.3	100	74,763
1963-64(1)	5.3	1.0	2.2	7.9	4.4	23.6	17.7	15.8	13.3	0.9	2.0	5.9	100	66,035
						Modern lycée sections								
1959-60	7.1	1.6	1.5	8.7	6.7	7.9	12.8	19.3	24.7	1.6	2.0	6.1	100	70,278
1963-64(2)	7.2	1.7	1.2	7.4	5.4	8.2	12.8	17.7	27.8	1.7	2.8	6.1	100	98,408
							C.E.G.							
1959-60	10.2	2.6	0.8	8.0	6.6	2.3	10.3	16.2	35.5	1.7	1.3	4.5	100	14,111
1963-64	9.7	2.9	0.7	6.0	5.7	2.2	8.4	14.9	41.9	1.9	1.4	4.3	100	26,296

Source: 1959-60 - see source of Table 60.
1963-64 - Ministry of Education "Informations Statistiques" No. 77.

1) Including part of those shown up to now in 1956 in the general "civil-servants" category.

2) 4ème pupils. Information not available for 6ème and 5ème.

TABLE 63

Distribution of 6ème and 2nde pupils according to socio-occupational category

(Percentages)

Social status category of head of family	6ème form in 1963-64	2nde form in 1967-68
Farmers	8.2	6.7
Agricultural wage-earners	2.3	1.8
Heads of firms, industry and commerce	13.0	13.0
Professions, senior executives	6.9	14.9
Junior executives	10.8	13.1
Clerical etc. staff	15.7	10.8
Manual workers	34.7	24.5
Hotel and domestic staff	1.7	1.5
Others	5.0	5.4
No occupation or unknown	1.7	8.3
Total	100.0	100.0
Corresponding number of pupils	430,708	255,915

Source: "L'origine sociale des élèves de second degré" (Social origin of second degree pupils). Note d'information, Ministry of Education, No. 6, 15th January, 1969.

Whilst the generation of children is not the same for 1967-1968 as for 1963-1964, because of the repeats and dropouts taking place between 6ème and 2nde which affect the various categories to differing extents, and allowing for any changes in socio-occupational category that may have occurred during the period, it is nevertheless a fact that children of senior executives and members of the professions in the 2nde form represent more than twice their relative percentage in the 6ème whereas the proportion of children of manual workers has fallen by about 30 per cent.

From information that had been collected for various studies made by INED, Girard and Sauvy(1) have been able to reconstruct the general progression of a generation of industrial workers' children from the close of their primary education up to university. The table they drew up is reproduced below:

TABLE 64

General progression of a generation of manual workers' children

Initial proportion(1)	In 1957	35%
Proportion entitled to enter secondary education, on the basis of their performance	July 1957	27%
Proportion actually entering 6ème form	October 1957	20%
Proportion left at 3ème form level	October 1960	14%
Proportion left at 1ère form level	October 1962	12%
Proportion at university	October 1964 or later	8%

1) Number of manual workers' children in relation to total pupils in CM2.

If they remain in general secondary education, children of modest backgrounds are as successful as their colleagues in well-provided families if not more so, as is shown by Table 65 which gives the percentage of pupils with normal scholastic progress and those behind schedule for each socio-occupational category and for each school year. The figures relate to the scholastic progress of a class from the end of elementary up to entry into the second cycle of secondary. The percentages given therefore concern only those of such children who are still at school during a given year.

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1) See "Les diverses classes sociales devant l'enseignement. Mise au point générale des résultats", (Education and the various social classes. General classification of results). Population No. 2, March-April 1965.

TABLE 65

Retention in secondary education (C.E.G. and lycée) according to socio-occupational category(1)

(1962-63 to 1966-67)

School year	Class corresponding to normal school progress	C.E.G.					LYCEE				
		Total	Normal school progress	Retention			Total	Normal school progress	Retention		
				1 class behind	2 classes behind or more	Total			1 class behind	2 classes behind or more	Total
				No occupation and miscellaneous (7,7%)							
1962-63	6e	100,0	100,0				100,0	100,0			
1963-64	5e	100,0	79,4	20,6		20,6	100,0	69,1	30,9		30,9
1964-65	4e	100,0	56,4	38,3	5,3	43,6	100,0	60,8	39,2		39,2
1965-66	3e	100,0	52,5	35,2	12,3	47,5	100,0	53,3	46,7		46,7
1966-67	2e	100,0	-	78,3	21,7	100,0	100,0	73,0	24,5	2,5	27,0
				Agricultural wage-earners (3,4%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	79,2	20,8	-	20,8	100,0	80,9	19,1	-	19,1
1964-65	4e	100,0	63,7	34,0	2,3	36,3	100,0	64,6	28,3	7,1	35,4
1965-66	3e	100,0	61,2	35,5	3,3	38,8	100,0	57,2	36,5	6,3	42,8
1966-67	2e	100,0	-	86,8	13,2	100,0	100,0	67,1	28,1	4,8	32,9
				Farmers (15,1%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	77,5	22,5	-	22,5	100,0	77,1	22,9	-	22,9
1964-65	4e	100,0	58,4	39,7	1,9	41,6	100,0	69,8	28,4	1,8	30,2
1965-66	3e	100,0	51,7	41,6	6,7	48,3	100,0	59,8	35,6	4,6	40,2
1966-67	2e	100,0	-	81,2	18,8	100,0	100,0	63,6	31,8	4,5	36,3
				Manual workers (39,5%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	78,7	21,3	-	21,3	100,0	80,4	19,6	-	19,6
1964-65	4e	100,0	57,5	40,7	1,8	42,5	100,0	67,7	31,7	0,6	32,3
1965-66	3e	100,0	49,8	44,9	5,3	50,2	100,0	54,2	43,9	1,9	45,8
1966-67	2e	100,0	-	83,9	16,1	100,0	100,0	59,8	36,2	4,0	40,2
				Self-employed craftsmen, traders (11,7%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	75,8	24,2	-	24,2	100,0	78,8	21,2	-	21,2
1964-65	4e	100,0	52,4	45,5	2,1	47,6	100,0	67,5	30,9	1,6	32,5
1965-66	3e	100,0	45,2	47,4	7,4	54,8	100,0	55,9	40,8	3,3	44,1
1966-67	2e	100,0	-	82,2	17,8	100,0	100,0	54,2	39,9	5,9	45,8
				Clerical etc. staff (16,5%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	77,0	23,0	-	23,0	100,0	80,6	19,4	-	19,4
1964-65	4e	100,0	57,2	41,9	0,9	42,8	100,0	66,8	32,6	0,6	33,2
1965-66	3e	100,0	45,4	49,1	5,5	54,6	100,0	53,1	44,5	2,4	46,9
1966-67	2e	100,0	-	84,5	15,5	100,0	100,0	52,3	42,7	4,9	47,6
				Junior executives (4,4%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	79,4	20,6	-	20,6	100,0	84,5	15,5	-	15,5
1964-65	4e	100,0	56,1	41,8	2,1	43,9	100,0	73,5	26,4	0,2	26,6
1965-66	3e	100,0	47,5	45,6	6,9	52,5	100,0	59,1	39,6	1,2	40,8
1966-67	2e	100,0	-	81,8	18,2	100,0	100,0	58,1	37,8	3,7	41,5
				Professions (3,9%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	83,9	16,1	-	16,1	-	79,3	20,7	-	20,7
1964-65	4e	100,0	67,2	31,7	1,1	32,8	100,0	70,5	29,1	0,4	29,5
1965-66	3e	100,0	50,3	46,6	3,1	49,7	100,0	61,0	38,1	0,9	39,0
1966-67	2e	100,0	-	83,5	16,5	100,0	100,0	49,1	46,5	4,3	50,8
				Senior executives (5,1%)							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	80,4	19,6	-	19,6	100,0	80,7	19,3	-	19,3
1964-65	4e	100,0	50,0	47,3	2,7	50,0	100,0	70,9	29,1	-	29,1
1965-66	3e	100,0	35,1	57,0	7,9	64,9	100,0	58,9	33,8	7,3	41,1
1966-67	2e	100,0	-	78,4	21,6	100,0	100,0	50,9	44,8	4,3	49,1
				All categories							
1962-63	6e	100,0	100,0	-	-	-	100,0	100,0	-	-	-
1963-64	5e	100,0	78,1	21,9	-	21,9	100,0	80,9	19,1	-	19,1
1964-65	4e	100,0	57,7	41,1	1,2	42,3	100,0	68,6	31,3	0,1	31,4
1965-66	3e	100,0	48,3	45,6	6,1	51,7	100,0	56,6	41,2	2,2	43,4
1966-67	2e	100,0	-	82,9	17,1	100,0	100,0	58,3	37,3	4,4	41,7

Source: Worked out from figures contained in "Orientation et sélection scolaires. Cinq années d'une promotion: de la fin du cycle élémentaire à l'entrée dans le 2ème cycle du second degré" (Streaming and selection. Five years follow-up of a cohort of pupils leaving elementary up to entry into the second cycle of secondary.) by Alain Girard and Henri Bastide. Population Nos. 1 and 2; January, February, March and April 1969.

Note:

1) The percentages given after each socio-occupational category refer to their proportion in the complete cohort.

2) The 2nd class applies only to lycées since C.E.G.s end at 3rd which explains why the children in this cohort still in a C.E.G. in 1966-1967 are all repeaters.

TABLE 66

Progress of a cohort according to sc[illegible]o-occupational category(1) and type of education

School year	[illegible]	Agricultural wage-earners [illegible]	Workers [illegible]	Small [illegible] [illegible]	Self-employed craftsmen, traders [illegible]	Clerical etc. staff [illegible]	Junior executives [illegible]	Professions (3.5%)	Senior executives [illegible]	Total (100%)
Not at school										
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	87	54	26	29	9	10	1	2	1	22
1963-64	251	181	96	104	51	41	10	17	4	81
1964-65	374	394	238	254	140	110	35	35	15	194
1965-66	491	515	329	357	198	179	62	60	22	275
1966-67	552	556	401	428	253	227	97	78	27	332
At school (all types)										
1961-62	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1962-63	913	946	974	971	991	990	959	998	999	978
1963-64	749	819	904	896	949	959	990	983	996	919
1964-65	626	606	764	746	860	890	965	965	985	806
1965-66	509	485	671	643	802	821	938	940	978	725
1966-67	448	444	599	572	747	773	903	922	973	668
In primary terminal class										
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	540	615	568	514	323	316	155	103	61	420
1963-64	310	400	439	398	264	262	126	85	51	325
1964-65	94	132	143	117	76	76	66	14	15	99
1965-66	3	3	9	7	6	4	5	-	2	6
1966-67	-	-	-	-	-	-	-	-	-	-
Receiving short vocational course										
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	25	8	10	9	4	3	2	-	-	7
1963-64	101	49	46	45	23	26	20	7	7	37
1964-65	180	105	195	198	108	148	65	50	27	153
1965-66	235	173	279	256	186	209	122	74	63	219
1966-67	193	186	262	255	204	226	134	58	82	222
Receiving secondary education										
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	348	323	396	448	664	671	842	895	938	551
1963-64	338	370	419	453	662	671	844	891	938	557
1964-65	385	369	426	431	676	666	836	901	943	554
1965-66	271	309	383	380	610	608	811	866	913	500
1966-67	255	258	337	317	543	547	769	834	891	446
At C.E.G.										
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	235	212	231	289	337	336	291	214	183	281
1963-64	228	260	262	305	360	357	315	218	199	301
1964-65	283	256	257	280	338	332	280	189	184	282
1965-66	179	183	209	225	272	273	248	163	151	228
1966-67	92	91	117	118	152	161	149	97	123	128
In lycées										
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	113	111	165	159	327	335	551	631	755	270
1963-64	110	110	157	148	302	314	529	673	739	256
1964-65	102	113	169	161	338	334	554	712	759	272
1965-66	92	126	174	155	338	335	563	703	762	272
1966-67	163	167	220	199	391	386	621	737	768	318
Of which in time	119	112	140	119	212	202	363	362	391	

Source: See Table 65.

Note: 1) Percentages given under each socio-occupational category correspond to their respective proportions in the cohort.

The proportion of pupils whose school progress was normal from 6ème to 2nde is between 60 and 67 per cent for those from the less privileged backgrounds (manual workers, workers on the land whether self-employed or wage-earning), whilst it is only 46 per cent for the category "professions" and 51 per cent for "senior executives". This is due to the more rigorous selection process applied to children from families of modest means, far more of whom abandon their studies than do children from well-to-do families, as shown by Table 66 which was prepared with the help of the INED survey mentioned earlier.

This table shows more clearly than anything already discussed the severe handicap their social origin imposes on school-children. We will analyse this, situation by situation, mainly by comparing two socio-occupational categories: manual workers and senior executives. Agricultural wage-earners and farmers' children have roughly the same schooling prospects as those of manual workers (agricultural wage-earners being, however, even less fortunate); these prospects improve progressively with each step in the social hierarchy: self-employed craftsmen, traders and clerical staff, followed by junior executives and lastly the professions and senior executives (the latter being fairly clearly the most favoured from the schooling point of view). There are not two opposed social groups but a continuous progression from the least favoured to the most favoured group. The same diversity would doubtless be found within each of the groups but precise information is not available.

We would recall at this point that we are discussing a cohort of pupils coming up from the CM2 in June 1962, i.e., first, those who have to repeat this class the following year are not considered and, secondly, the whole cohort was at school in 1961-1962.

If, to start with, one considers the dropouts, that is the number of pupils at school one year who are not there the next, there is one first observation that must be made: if all the pupils had had normal scholastic progress both in their primary and early secondary education they would not have begun to leave the system until 1965-1966 and after, that is to say after reaching 14 - the compulsory school-leaving age. But nearly 20 per cent of them left before that date, the proportion reaching nearly 40 per cent for agricultural wage-earners and 25 per cent for manual workers, compared with only 1.5 per cent for senior executive grades. There is nothing surprising in this when one remembers the extent of repeats and the influence this has on dropout, particularly for children of modest backgrounds. These dropouts continue to occur through the years, and five years after the end of primary school over half the children of agricultural wage-earners have left school completely; so have 43 per cent of manual workers' children, but only 3 per cent of those of senior executive grades. It is difficult to accept that these differences in the dropout ratio are purely the outcome of the pupils' aptitudes.

This problem is related to that of streaming on entry into the 6ème. Thus from the Table it can be seen that the primary terminal classes - where the chances of transfer into long-term education are practically non-existent - are mainly composed of the children of the disadvantaged social classes: 62 per cent of agricultural wage-earners' children, 51 per cent of manual workers' children, but only 6 per cent of senior executives' children are routed there at the end of their elementary education. The same remarks apply to short vocational education though to a less pronounced degree.

Conversely, senior executives' children, together with those of members of the professions and of junior executives, pass in the vast majority of cases into secondary education (94 per cent in 6ème) and more particularly into the lycées (75 per cent). Even when they are streamed to the 6ème, manual workers' children enter CEG's in far greater numbers than lycées (29 per cent compared with 16 per cent). Since the chances of transfer into second cycle secondary are far lower in the CEG's than the lycées, and because children from the poorer classes drop out more easily than those from comfortably-off classes, only 71 per cent of manual workers' children entering 6ème in 1962-1963 are still at secondary school in 1966-1967; the figure for senior executives' children is 95 per cent.

The dropout problem, serious enough in itself, is made worse by the fact that many pupils leave school without any certificate and without even finishing the cycle of study they had begun, so that they enter the labour force under conditions that make it difficult for them. Since these dropouts have particular incidence in certain social classes, the results mentioned above should be placed in the more general context of the democratisation of access to all levels of education.

To end this section devoted to the part played by social background in scholastic progress, Table 67 has been prepared giving, first, pupil distribution in the various situations (end of elementary education, the following year, two years after and five years after) by social origin. Secondly, it presents the probability of children in a given situation belonging to this or that social group (this has been worked out by dividing the distribution in a given situation by the initial distribution at CM2 level). Lastly the bottom line, obtained by dividing the probability attaching to Main Group I by that of Main Group III (or vice versa), shows the comparative likelihood of pupils of the different categories finding themselves in a given situation.

The distribution of pupils in CM2 conforms with the socio-occupational structure of the labour force, allowing for differential birth-rates and children's age. If all children had the same chances of scholastic progress and success, the distribution in the various situations where they may find themselves the following year or two or five years later would be the same as that in CM2. This is far from being the case and the proportions of the different social groups vary with the situation considered. Manual workers (Main Group I) supplying 60 per cent of the pupils in CM2 provide, in the following year, 77 per cent of the pupils in the primary terminal classes and only 35 per cent of those in the lycée 6èmes; two years later they account for 80 per cent of those leaving to go into jobs and 34 per cent of those in lycée 4èmes; finally in 1966 they provide 78 per cent of those entering employment and 42 per cent of the pupils in 2nde classes. Conversely children of junior and senior executives and members of the professions (Main Group III) which represented 13 per cent of those coming up into CM2 supply, in the next year, only 3 per cent of the pupils in the primary terminal class but 32 per cent of those in the lycée 6èmes; two years later they form only 1.8 per cent of those leaving school for good but 34 per cent of the lycée 4ème population; finally five years afterwards they represent only 2.5 per cent of those entering working life but 27 per cent of the pupils in the 2nde classes.

The bottom line in this table shows that a child in Main Group I is five times as likely to go into the primary terminal class at the end of CM2 as one in Main Group III, nearly ten times as likely to be out to work in 1964 and seven times as likely to find

TABLE 67

Social origins of a batch of pupils and their respective situations in 1962, 1964 and 1966 - distribution in percentages

Socio-occupational category	June 1962 CM2 (1)	September 1962			September 1964							September 1966						
			6ème Class					5ème Class		4ème Class				4ème Class		3ème Class		
		Primary terminal class (2)	C.E.G. (3)	Lycée (4)	At work (5)	Primary terminal class (6)	Short voca-tional (7)	C.E.G. (8)	Lycée (9)	C.E.G. (10)	Lycée (11)	At work (12)	Short voca-tional (13)	C.E.G. (14)	Lycée (15)	C.E.G. (16)	Lycée (17)	2ème Class (18)
No occupation, miscellaneous	2.3	3.1	1.8	1.2	4.2	2.2	2.7	2.8	2.0	1.8	0.7	3.7	1.9	2.0	0.7	1.5	0.7	1.4
Agricultural wage-earners	3.4	5.0	2.5	1.4	6.9	4.6	2.4	2.4	1.6	3.4	1.3	5.6	2.8	1.9	1.8	2.5	1.3	2.1
Farmers	15.1	20.3	12.5	9.3	18.2	21.5	19.4	13.6	8.3	14.0	9.4	18.2	17.8	15.5	11.2	13.6	8.5	11.9
Manual workers	39.4	48.5	40.3	23.1	52.1	47.0	48.0	37.9	23.7	40.0	22.8	50.9	45.3	34.1	21.0	36.8	22.8	26.6
Main Group I	60.2	77.1	57.4	35.1	81.4	75.3	72.5	56.7	35.6	59.2	34.2	78.4	67.8	53.5	34.7	54.4	33.3	42.0
Self-employed craftsmen, traders	10.4	7.7	12.4	12.5	7.5	7.7	7.3	14.0	13.9	11.2	12.4	7.9	9.5	12.7	16.6	12.2	12.9	12.2
Clerical etc. staff	16.5	12.1	19.7	20.4	9.3	12.7	16.4	19.4	21.1	19.8	19.7	11.2	16.8	19.0	21.6	21.2	21.8	18.7
Main Group II	26.9	19.8	32.1	32.9	16.8	20.4	23.7	33.4	35.0	31.0	32.1	19.1	26.3	31.7	38.2	33.4	34.7	30.9
Junior executives	4.4	1.6	4.6	8.9	0.8	3.0	1.8	4.4	7.5	4.4	9.5	1.3	2.6	5.5	7.2	5.0	8.3	8.9
Professions	3.5	0.8	2.6	8.8	0.6	0.5	1.1	1.7	8.7	2.6	9.4	0.8	1.4	2.5	7.8	2.7	9.6	7.0
Senior executives	5.0	0.7	3.3	14.3	0.4	0.8	0.9	3.8	13.2	2.8	14.8	0.4	1.9	6.8	12.1	4.5	14.1	11.2
Main Group III	12.9	3.1	10.5	32.0	1.8	4.3	3.8	9.9	29.4	9.8	33.7	2.5	5.9	14.8	27.1	12.2	32.0	27.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Probability		(2) (1)	(3) (1)	(4) (1)	(5) (1)	(6) (1)	(7) (1)	(8) (1)	(9) (1)	(10) (1)	(11) (1)	(12) (1)	(13) (1)	(14) (1)	(15) (1)	(16) (1)	(17) (1)	(18) (1)
Main Group I		1.28	0.95	0.58	1.35	1.25	1.20	0.94	0.59	0.98	0.57	1.30	1.13	0.89	0.58	0.90	0.55	0.70
Main Group II		0.74	1.19	1.22	0.62	0.76	0.88	1.24	1.30	1.15	1.19	0.71	0.98	1.18	1.42	1.24	1.29	1.15
Main Group III		0.24	0.81	2.48	0.14	0.33	0.29	0.77	2.28	0.76	2.61	0.19	0.46	1.15	2.10	0.95	2.48	2.10
III : I		5.3	1.2	-	9.6	3.8	4.1	1.2		1.3	-	6.8	2.5	-	-	-	-	-
I : III		-	-	4.3	-	-	-	-	3.9	-	4.6	-	-	1.3	3.6	1.1	4.5	3.0

Source: See Table 65.

this happening to him in 1966. We have seen that pupils leaving the education system two or even five years (remembering the frequency of repeating) after the end of primary school have, in most cases, very meagre certification enabling them to take up only such employment as calls for little or no qualification. In this way they will find themselves in the same socio-occupational category as their parents and education will have done nothing in their case to improve social mobility.

At the other end of the scale, a child in Main Group III is four times as likely as one in Main Group I to enter lycée 6ème, five times as likely to be in lycée 4ème in 1964 and three times as likely to be in 2nde in 1966. Here, too, education has purely and simply consolidated the advantages conferred by birth into a well-to-do background. Had we drawn comparisons between more homogeneous groups or between individual occupations the differences would have been even greater.

The result at higher education level

Despite the long process of selection operating right from elementary education level, an ever-increasing number of pupils gain admission to university: their number has more than doubled between 1959 and 1966. But has this increase in the student body, which, incidentally, has benefited women more than men (155 per cent versus 100 per cent), altered the social composition of the student body?

To find this out we will examine, first, student distribution by social background and, secondly, this same distribution by field of study.

1. - Distribution by social origin (all fields of study)

Table 68 shows there are clearly considerable differences in participation in higher education in relation to social origin and these differences obviously persist despite the appreciable rise in the proportion of students from homes of modest means. In 1959 the proportion of students who were manual workers' sons was 3.4 per cent. In 1967 the figure was 10.1 per cent; but working out the number of students per thousand male workers between the ages of 45 and 54 in the same social category(1) shows that, from 1959 to 1967, this number rose from 786 to 1,343 for the professions, and from 6 to 48 for the children of manual workers. In relative terms the increase in the number of manual workers' children is admittedly higher than that for children of members of the professions (700 per cent versus 71 per cent) but in absolute terms the figures are 42 compared with 557.

2. - Distribution by social origin according to field of study

University education therefore admits relatively few students from families of modest means. Moreover, as Table 25 shows, these students are very unequally distributed by faculty. In 1959, 51 out of 100 manual workers' sons registered at university were in science faculties, compared with 31 out of 100 sons of members of the professions and senior executives; in 1966 these proportions had become 46 and 33 respectively. Similarly, while women students, whatever their social origin, prefer joining the humanities faculties (43 per cent in 1959 and 50 per cent in 1966), they are even more likely to do so if they come from modestly situated families.

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1) For 1959 and 1967, the labour force referred to here is that taken respectively from the 1962 and the 1967 censuses.

Conversely some faculties, medecine in particular, are mainly populated by the children of the well-to-do: 26 per cent in 1959 and 17 per cent in 1966 (men and women) of students whose fathers were in the professions or were senior executives were registered in this faculty compared with 8.5 and 5.5 per cent of manual workers' children.

Unfortunately, such precise information is available only for university education. It is therefore difficult to find out whether the other types of higher education are characterised by a more democratic recruitment. In the IUT's(1) which train higher technicians, two years after their creation in 1967-68 children of manual workers represented 22.6 per cent of enrolments (i.e. double their proportion in universities). Children of farmers and agricultural wage-earners - 10.7 and 1.6 per cent respectively - and, to a lesser degree, children of junior executives (17.1 per cent) are also better represented there than in universities (see Table 68). The reverse is true for the professions and senior executives whose children represent a total of 12.3 per cent of enrolments.

Nevertheless, the creation of the IUTs is too recent for us to be able to draw any definite conclusions from these few data.

The scanty information available on the social origins of students at the Grandes Ecoles(2) shows that they are largely from comfortably-off families; manual workers' children in 1961-1962 represented only 2 per cent of the numbers at the Ecole Polytechnique and Ecole Centrale. Only in Arts and Metiers (17 per cent) and the girls' Ecoles Normales Supérieures (Saint-Cloud and Fontenay - 15 per cent) were they present in any great number.

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1) Source: Document 11/SC4/GR111 a/no. 3596 Enseignement supérieur - effectifs universitaires (Higher Education - University Enrolments) 31st March, 1968. Ministry of Education, Service central des statistiques et de la conjoncture.

2) Source: "Les conditions de développement, de recrutement, de fonctionnement et de localisation des grandes écoles en France" (Conditions of development, recruitment, operation and location of the Grandes Ecoles in France) - Report by the Study Group to the Prime Minister, 26th September, 1963.

TABLE 68

Student distribution by social origin

and number of students per 1,000 male workers in 45-54 age group

Socio-occupational category	Students 1959-60		Students 1967-68		Male workers aged 45-54 in 1962 (in thousands)	Male workers aged 45-54 in 1968 (in thousands)	Number of students per 1,000 male workers aged 45-54	
	Numbers	%	Numbers	%			1959-60	1967-68
	1	2	3	4	5	6	$\frac{1}{5}$	$\frac{3}{6}$
Farmers	8,784	5.0	25,442	5.8	346.0	285.2	25	89
Heads of firms, traders, self-employed craftsmen	31,434	18.1	62,822	4.2	313.6	279.3	100	225
Professions	29,777	17.1	61,207	13.8	37.9	45.6	786	1,343
Senior executives	22,095	12.7	81,173	18.3	115.6	144.3	191	563
Junior executives	32,088	18.4	71,170	16.1	165.7	213.6	194	333
Clerical, hotel and domestic staff	20,051	11.5	42,048	9.5	288.1	258.9	70	162
Agricultural wage-earners	1,124	0.6	3,007	0.7	129.3	93.3	9	32
Manual workers	5,878	3.4	44,917	10.1	933.0	932.9	6	48
Others	22,919	13.2	50,836	11.5	85.9	84.6	-	-
TOTAL	174,150	100.0	442,622	100.0	2,370.1	2,337.6	73	189

Source: Students: Ministry of Education, Informations Statistiques No. 32-33: Service central des statistiques et de la conjoncture. document 11/SC4/GR111 a/no. 3596: enseignement supérieur - effectifs universitaires (Higher education - university enrolments) 31st March, 1968.

Workers: Population census of 1962.
1968 Population census provisional document PA 242/V, sondage 1/20ème (101. 68 242) (Institut national de la statistique et des études économiques).

TABLE 69

Distribution of students from the various socio-occupational categories by field of study

Social status category	MEN						WOMEN						TOTAL					
	Law	Science	Humanities	Medecine	Pharmacy	Total	Law	Science	Humanities	Medecine	Pharmacy	Total	Law	Science	Humanities	Medecine	Pharmacy	Total
								1959-1960										
Farmers	15,0	43,9	25,2	13,3	2,6	100,0	10,6	29,2	46,9	6,5	6,8	100,0	13,3	38,2	33,7	10,6	4,2	100,0
Heads of firms, traders, self-employed craftsmen	19,1	39,1	18,6	19,3	3,9	100,0	12,7	26,6	40,9	10,8	9,0	100,0	16,5	34,1	27,6	15,9	5,9	100,0
Professions and senior executives	16,9	31,5	16,1	31,5	4,0	100,0	10,4	25,0	38,2	18,0	8,4	100,0	14,3	28,8	25,3	25,8	5,8	100,0
Junior executives	17,8	42,9	21,5	15,6	2,2	100,0	11,8	31,4	44,7	6,9	5,2	100,0	15,4	38,2	31,0	12,0	3,4	100,0
Clerical, hotel and domestic staff	14,0	50,6	22,1	12,2	1,1	100,0	9,8	33,7	48,7	4,8	3,0	100,0	12,4	44,1	32,3	9,4	1,8	100,0
Agricultural wage-earners	19,6	42,6	28,4	8,2	1,2	100,0	8,6	31,9	46,6	8,1	4,8	100,0	15,7	38,8	34,8	8,2	2,5	100,0
Manual workers	12,1	54,4	22,7	9,8	1,0	100,0	9,2	32,9	48,5	6,2	3,2	100,0	11,0	46,4	32,3	8,5	1,8	100,0
Others	27,7	39,3	22,2	9,4	1,4	100,0	17,1	28,0	45,0	6,8	3,1	100,0	23,7	35,0	30,9	8,4	2,0	100,0
TOTAL	18,3	39,8	19,8	19,3	2,8	100,0	11,8	28,3	42,7	10,8	6,4	100,0	15,8	35,2	29,0	15,8	4,2	100,0
								1966 - 1967										
Farmers	22,8	42,3	24,5	8,2	2,2	100,0	13,0	30,3	48,1	4,2	4,4	100,0	18,3	36,8	35,4	6,3	3,2	100,0
Heads of firms, traders self-employed craftsmen	27,3	35,0	18,1	16,3	3,3	100,0	16,1	20,9	49,1	8,0	5,9	100,0	22,2	28,5	32,4	12,4	4,5	100,0
Professions and senior executives	26,5	33,5	15,2	21,0	3,8	100,0	14,8	20,5	45,8	11,9	7,0	100,0	21,1	27,5	29,3	16,8	5,3	100,0
Junior executives	23,0	39,3	22,1	13,6	2,0	100,0	12,1	23,8	53,3	6,9	3,9	100,0	18,1	32,2	36,4	10,5	2,8	100,0
Clerical, hotel and domestic staff	27,9	35,4	22,1	13,0	1,6	100,0	16,6	22,4	50,7	7,0	3,3	100,0	23,0	29,9	34,3	10,5	2,3	100,0
Agricultural wage-earners	16,9	49,4	28,7	4,7	0,3	100,0	10,5	31,4	53,4	3,3	1,4	100,0	14,2	41,6	39,3	4,1	0.8	100,0
Manual workers	18,5	45,7	27,9	7,2	0.7	100,0	11,5	28,2	55,5	3,2	1,6	100,0	15,6	38,3	39,5	5,5	1,1	100,0
Others	31,9	29,1	21,3	15,3	2,4	100,0	17,5	17,6	53,6	7,5	3,8	100,0	25,5	24,0	35,7	11,8	3,0	100,0
TOTAL	25,9	36,0	20,2	15,3	2,6	100,0	14,7	22,2	50,1	8,1	4,9	100,0	20,8	29,8	33,7	12,1	3,6	100,0

Source: Ministry of Education: Informations Statistiques, Nos. 32-33 and 108 .

Conclusion

Operation of the Pupil Streaming Mechanism on entrance into Secondary Education

Although selection, as we have seen, operates throughout the course of the pupil's career, his scholastic future and therefore his opportunity of access to the various echelons of the socio-occupational hierarchy would essentially appear to be decided on the first occasion pupils are split up, that is, by the stream into which they go at the end of elementary schooling. For practically all pupils(1), this decision will determine their varying expectations of school life depending on whether they are routed to classical or modern secondary education, a CEG or the primary terminal class. There is no doubt, therefore, that from the very end of elementary schooling the organisation of the educational streams links the socio-occupational structure with the school system. In these circumstances the machinery governing pupil streaming at the end of elementary schooling needs to be identified.

For this purpose specific research would appear to be necessary, but since we cannot undertake such research at this time we will use as a starting point the results of the national survey carried out by the INED(2), already referred to in earlier sections.

Three factors, distinct and yet in reality closely associated, seem jointly to govern the direction taken by pupils at the end of their elementary education:

1) scholastic performance
2) family wishes
3) opinions of teachers and headmasters.

Figures relating to these three factors are compared in Table 70 and it can be seen that if streaming were based solely on scholastic success 74 per cent of CM2 and 7ème pupils (excellent, good and average) would go up into lycée or CEG 6èmes, 62 per cent if the streaming depended wholly on family wishes and only 50 per cent if it depended entirely on teachers' opinions on suitability for extended education.

But from Table 71 it can be seen that only 55 per cent of CM2 pupils actually went into CEG and lycée 6èmes and 42 per cent went into the primary terminal class. These 55 per cent, irrespective of their parents' socio-occupational category, include 93 per cent of the pupils graded scholastically excellent at CM2 level, 83 per cent of those graded good, 51 per cent of those graded average and 15 and 6 per cent respectively of those graded below average and bad. In this form, however, the figures in

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1) To see whether the stream entered at the end of elementary schooling was final the situation of pupils in 1964 was checked against their 1962 streaming, with the following results: a) 85 per cent of pupils from the primary terminal classes were found to be out at work, 10 per cent in CEGs and 5 per cent in lycées; b) 84 per cent of CEG and 92 per cent of lycée pupils were receiving secondary education but 10 per cent had been transferred from CEG to lycée or vice versa. Streaming after CM2 was therefore shown to be final in nine cases out of ten.

2) "Orientation et sélection scolaires. Cinq années d'une promotion: de la fin du cycle élémentaire à l'entrée dans le 2ème cycle du second degré" (Streaming and selection of pupils: 5 years' follow-up of a class from the end of elementary to entry into the 2nd cycle of secondary) by Alain Girard and Henri Bastide. Population No. 1, January-February 1969 and No. 2 March-April 1969.

Table 71 cannot be used to judge the validity of the selection criteria; they reflect secondary recruitment requirements rather than the processes by which elementary education meets them. Consequently "scholastic performance" in CM2, which masks this process, confirms the degree to which the children are suited not to education in general but to a certain type of education, and therefore becomes converted into a liability borne by children in differing degrees according to their social background. On this basis "scholastic performance" does not appear to make any real contribution to pupil streaming; it is merely an echo of past determinisms which it does not openly reveal but on which the practical requirements of streaming are primarily based. This is shown conclusively by teachers' opinions on pupils of average ability (Table 70, column 9). Although based on scholastic criteria, these verdicts vary tremendously according to whether the pupils' origins are modest or well-to-do. Thus, out of 100 children of agricultural wage-earners considered as average pupils only 14 are held to be suitable for extended education as against 86 out of 100 senior executives' children of the same standard. Teachers' opinions therefore seem highly significant because for equal scholastic performance there is almost overt reference to the socio-occupational category of the parents - whose widely varying behaviour can be deduced from column 2, "family wishes", in Table 70.

Does the streaming of pupils therefore have to be linked to their social origin? On this subject we shall make use of the results of the survey carried out by the INED in the Paris area(1), some of the data from which is reproduced in Table 72. The results (satisfaction with stream entered) seem to show "overwhelming agreement between parents' wishes and stream entered", for pupils as a whole. But it is important to clarify the reasons for agreement or diagreement and to see how this relates to the streaming machinery, since the agreement or disagreement expressed does not criticise or approve the machinery with whose results it is concerned. It can be seen, first, that most families whose children have been streamed counter to their parents' wishes at the end of CM2 explain the fact in scholastic terms (weak pupil) and, secondly, that headmasters and teachers have been consulted, at the most, only in one case out of two of streaming to primary terminal classes and CEG, whatever the pupil's scholastic performance. There is considerable significance, too, in the opinions families have on the differences between primary terminal classes and the 6ème and between CEG and lycée 6èmes. Thus: a) the vast majority of families with children in primary terminal classes do not see any "very great difference" between entry into 6ème and such classes, b) the vast majority of families are not aware of, or do not see, any difference between lycée and CEG 6èmes, c) the vast majority of families (61 per cent or 89 per cent, according to the case) answer "don't know" or else think being in a CEG or lycée is "much the same".

So it looks very much as though the "overwhelming agreement between family wishes and stream entered" for pupils overall is largely founded on an almost universal unawareness of the inequality inherent in the schooling streams (a significant minority does not even know the name and address of the nearest lycée or CEG). On the other hand, the value of studies is appreciated by most families who think it is important to "study for a long time". These same families, however, are also very conscious of the cost of schooling

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1) "La famille et l'orientation scolaire au niveau de la sixième" (The family and pupil streaming at sixième level). A survey carried out in June 1963 by Paul Clerc, in Population, August-September 1964.

TABLE 70

Streaming at 6ème level according to social origin

1	2	3	4	5	6	7	8	9
Parents' occupation	Candidates for 6ème (family wishes)	Entered 6ème	Teachers' opinions (suitable for extended education)	Scholastic performance				Average pupils considered suitable for extended education
				Excellent	Good	Average	Total	
Agricultural wage-earners	38	32	37	5	27	35	67	14
Farmers	44	40	40	10	32	32	74	-
Manual workers	51	45	41	7	27	34	68	21
Self-employed craftsmen, traders	73	66	54	10	33	34	77	32
Clerical staff	74	67	56	11	33	34	78	35
Junior executives	90	84	76	21	43	25	89	48
Professions	94	90	81	17	38	33	88	78
Senior executives	95	94	86	21	40	28	90	86
Total	62	55	50	10	31	33	74	27

Source: "La stratification sociale et la démocratisation de l'enseignement" (Social strata and the democratisation of education) by Alain Girard and Henri Bastide: Population No. 3, June-September 1963.

TABLE 71

6ème entries according to scholastic performance

(All socio-occupational categories combined)

Scholastic performance	Catching-up course	Primary school	CEG	Lycée	Total	6ème Class
Total	3	42	28	27	100	55
Excellent		7	37	56	100	93
Good		17	44	39	100	83
Average	2	47	29	22	100	51
Below average	6	79	8	7	100	15
Bad	18	76	3	3	100	6

Source: "La stratification sociale et la démocratisation de l'enseignement" (Social strata and the democratisation of education) by Alain Girard and Henri Bastide: Population No. 3, July-September 1963.

which, for them, seems to be a reason for deciding to remove children from school, but it seems very unlikely that this awareness of the cost of schooling has any direct influence at the time their children are streamed. Apart from senior executives and, to a lesser extent, clerical and similar staff (see social distribution of pupils in the various classes) who take a direct hand in the direction to be taken by their children, preferably into lycée 6ème (45 per cent and 23 per cent of bad pupils, respectively, with parents in these categories go to lycées) most families seem to have the vaguest ideas on the type of training they would like for their children, even though they recognise the need for lengthy schooling. In actual fact it seems that the streaming of pupils cannot be directly linked with social origin, since their distribution over the various types of education or establishment, equivalent to all intents and purposes to their streaming, seems to be nothing other than the outcome of the practical functioning of elementary education. And the implicit purpose of this education appears to be the discovery of aptitudes which secondary and higher education will sanction differentially according to the very hierarchy of the streams they contain, and which form the linking structure between school system and socio-occupational category. This is the only possible explanation for the very high repeating rates affecting elementary education, which mean that not only the conditions of transmission of knowledge but also the criteria by which pupils are judged assume only a relative character. To the extent, however, that elementary education is the only framework in which all age groups receive, successively, the same training, repeating and scholastic performance would appear to be attributable to socio-occupational category. But it must be remembered that families impart different pre-school cultures which a single teaching system, applied to all pupils alike, will sanction without the basic question of the nature of this teaching ever being raised. In this way, and only in this way, is it possible to link the streaming of pupils and their respective and differential chances of admission into the socio-occupational hierarchy with their social origins which determine, first, the extent to which their family culture suits them to school requirements and, secondly, the physical conditions enabling these probabilities to be translated into fact. The democratisation to be aimed at, therefore, is as much concerned with pedagogics in secondary education as with the economic conditions leading to an improvement, or otherwise, in the possibilities of taking advantage of the schooling opportunities according to social origins.

In support of what has just been said, the distribution of apprentices according to the socio-occupational category of their parents may be cited by way of example.

In 1963-64, the distribution of contracts according to the socio-occupational category of the apprentice's family shows that two-thirds of the apprentices were of modest origins:

- manual workers:	50 per cent;
- office workers:	12 per cent;
- farm labourers:	11.7 per cent (19.2 per cent in 1958-59);
- unemployed:	9 per cent.

There is therefore a fairly clear relationship between socio-economic origin and apprenticeship. The link between educational level and apprenticeship on the other hand is much less clear. The number of youngsters with a primary school-leaving certificate is no greater in apprenticeship than in any other field of activity.

TABLE 72

Opinions of parents on the streaming of their children

	Scholastic ability in intermediate course, 2nd year (CM2) in teachers' opinion								
	Good pupils			Average pupils			Bad pupils		
	Streams entered in October 1962								
	Primary Terminal Class	CEG 6ème	Lycée 6ème	Primary Terminal Class	CEG 6ème	Lycée 6ème	Primary Terminal Class	CEG 6ème	Lycée 6ème
Satisfaction with stream entered									
"Is your child where you wanted him to be?" (June 1963):									
Yes	80	85	90	73	81	92	80	89	92
No, because we wanted:	20	15	10	27	19	8	20	11	8
- repeat CM2	-	-	-	1	1	-	2	-	-
- terminal class	2	-	-	1	-	-	-	-	-
- C.E.G.	2	-	1	8	4	1	4	1	-
- 6ème unspecified	4	-	-	-	-	-	8	-	-
- Lycée	10	10	7	10	10	6	3	9	8
- C.E.T. or technical school	-	1	-	4	1	-	1	-	-
- others	2	4	2	3	3	1	2	1	-
	100	100	100	100	100	100	100	100	100
If not, "Why could he not get in?"									
- weak child	15	-	-	21	4	2	10	2	4
- not enough places	2	2	2	-	2	2	1	1	-
- wrong area	-	1	3	-	1	-	-	-	-
- unclear	8	12	5	6	12	4	9	8	4
	25	15	10	27	19	8	20	11	8
Consultation prior to streaming decision									
"Did you go and see anyone last year to know what class to get him into?"									
- no, no one	35	52	61	52	49	58	49	43	60
- yes, schoolteacher or headmaster	59	46	37	47	49	41	46	51	36
- others	6	2	2	1	2	1	5	6	4
	100	100	100	100	100	100	100	100	100
Information: "Can you tell me which is your nearest Lycée?"									
- gave name and address	73	83	*	64	85	*	65	87	*
- knew neither	27	17	*	36	15	*	35	13	*
	100	100	100	100	100	*	100	100	*
"Which is your nearest Collège d'enseignement général (C.E.G.)?"									
- gave address	49	*	*	69	*	*	91	*	*
- don't know	51	*	*	31	*	*	9	*	*
	100	*	*	100	*	*	100	*	*
Family's opinion on 6ème versus primary terminal class									
"Does whether a child goes into the 6ème or stays at elementary school make a very great difference, a slight difference or no difference at all to his future?"									
- very great difference	38	69	81	57	77	84	47	69	69
- slight difference	13	8	7	12	10	5	13	5	8
- don't know	40	16	10	18	9	9	27	22	15
- no difference	9	7	2	13	4	2	13	4	8
	100	100	100	100	100	100	100	100	100
Lycée 6ème versus C.E.G. 6ème									
"Again in terms of his future, does whether a child goes into a Lycée 6ème or a C.E.G. 6ème make a very great difference, a slight difference or no difference at all?"									
- very great difference	4	14	28	12	21	19	11	15	27
- slight difference	2	20	30	12	20	20	11	16	4
- don't know	83	41	31	65	30	46	64	42	61
- no difference	11	25	11	11	29	15	14	27	8
	100	100	100	100	100	100	100	100	100
Pedagogic value of the different 6èmes									
"On the whole do you think that studying in Collèges d'enseignement général is better or worse than that in the lycées or is it the same?"									
- C.E.G. better	7	22	12	13	28	13	14	27	8
- much the same	9	37	27	19	38	21	19	30	15
- don't know	80	33	38	63	30	47	64	31	65
- Lycée better	4	8	23	5	4	19	3	12	12
	100	100	100	100	100	100	100	100	100
Staying at school versus learning a trade									
"What seems more important to you, staying on a long time at the collège or lycée or learning a trade as soon as possible?"									
- staying at school	64	68	83	55	69	85	38	69	73
- learning a trade	34	9	-	31	14	3	41	10	8
- no opinion	2	23	17	14	17	12	21	21	19
	100	100	100	100	100	100	100	100	100
Reasons for leaving school									
"When a family decides to take a child making normal progress at school away from it and start him at work or in an apprentice training centre, which of the following reasons do you think is the most important?"									
1. There's no need of book learning to earn your living	15	19	15	20	16	16	28	18	27
2. Staying at school costs too much	30	44	37	45	43	42	30	40	50
3. The child wants to make his own way and not stop at school	25	14	20	16	18	26	19	16	15
4. Other reasons and "don't know"	30	23	28	19	23	16	23	26	8
	100	100	100	100	100	100	100	100	100
Parents									
Socio-occupational category									
- manual workers	38	22	14	50	42	12	46	41	12
- clerical and similar staff	33	26	17	27	27	20	28	23	23
- junior executives	21	18	21	8	13	17	12	18	8
- traders, self-employed craftsmen	8	13	15	11	10	21	10	11	12
- senior executives and equivalent	-	21	33	4	8	30	4	7	45
	100	100	100	100	100	100	100	100	100

Source: La famille et l'orientation scolaire au niveau de la sixième (The family and pupil streaming at 6ème level) - a survey carried out in June 1963, in the Paris area, by Paul Clerc, Population No. 4, August-September 1964.

Note: * means: question not asked
- means: no result

Chapter III

REGIONAL DISPARITIES IN ENROLMENT RATES

As with social disparities, regional differences in enrolment rates have always attracted the attention of those concerned with educational problems. Here we need to find out whether the considerable growth in the numbers in secondary education between 1954 and 1962 did or did not have the effect of ironing out these inequalities.

Put in this way the problem of how regional disparities in enrolment rates have evolved requires, for its understanding, constant reference to the social conditions already analysed at national level, which vary between regions.

Regional disparities in enrolment rates cannot be understood using aggregate indices(1). These indices tend to blur the specific demographic and socio-economic features of each region that would appear to determine the varying behaviour of the groups in relation to location and which, on this account, need to be defined.

The study of regional disparities will have two objectives:

1) to outline the evolution of regional disparities over time;
2) to attempt a logical explanation of the evolution of these disparities in the enrolment phenomenon and the causes underlying variations in this latter.

A) Approach to the phenomenon

In this study of the evolution of regional disparities in enrolment rates the unit adopted for analysing geographic variations in enrolment rates is the academic region. The academic region is a unit of school organisation which seems to be characterised by relatively homogeneous internal enrolment patterns(2).

After deciding on this unit of analysis, the share in the increase of pupils due to demographic changes and that due to enrolment strictly speaking were worked out. It was then considered that the share due to enrolment in the increase in the number of pupils is the main indicator of changes in depth of the factors governing regional enrolment levels. This share therefore plays a vital role in the description of the trends in regional disparities.

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1) The usual aggregative indices are standard deviation and coefficient of variation. For the regions referred to below:
54 = 6.94 and 62 = 8.24 : V 54 : 20.6% and V 62 : 17.2%

2) See Revue Française de Sociologie, special 1967/68 number, p. 121 *et seq.*

B) Outline of calculation method

If:

- ${}_oP_a^i$ = secondary school age population in 1954 (all types of education combined) according to regions i, the year 1954 denoted by (o), regions i = 1, 2, 3, ...19, and the age group concerned (11-17) denoted by a,
- ${}_oW_a^i$ = enrolment rate in secondary education in 1954 by region,
- ${}_oSi$ = ${}_oW_a^i \times {}_oP_a^i$ = numbers in school in 1954 in secondary education by region,
- ΔP_a^i = ${}_1P_a^i - {}_oP_a^i$ = variation in school-age population in 1954 and 1962. Year 1962 denoted by 1.
- ΔW_a^i = variation in enrolment rate between 1954 and 1962
- ${}_1Si$ = numbers at school in 1962 in secondary education by region,

then:

$${}_1Si = \left[{}_oP_a^i + \Delta P_a^i\right] \left[{}_oW_a^i + \Delta W_a^i\right]$$

whence $\Delta Si = {}_1Si - {}_oSi = \Delta P_a^i \,.\, {}_oW_a^i + \Delta W_a^i \,.\, \Delta P_a^i + \Delta W_a^i \,.\, {}_oP_a^i$

and by factorising with ΔW_a^i

$$\Delta Si = \Delta W_a^i \left[{}_oP_a^i + P_a^i\right] + {}_oW_a^i \,.\, \Delta P_a^i$$

or:

I) ${}_oW_a^i \; \Delta P_a^i$ - demographic effect or share due to demographic changes.

II) $\Delta W_a^i \; ({}_oP_a^i + \Delta P_a^i$ = enrolment effect or share due to enrolment changes (including the combination of the two effects, i.e. $\Delta W_a^i \,.\, \Delta P_a^i$)

The numerical results are shown in Table 73.

C) Interpretation of results

Column 8 of Table 73 shows the enrolment effect, as defined above, on the increase in numbers of pupils between 1954 and 1962. Whilst the Paris academic region, for example, has a relative increase in number of pupils of over 90 per cent, the share due to enrolment properly speaking represents only 29.2 per cent, whereas in the Caen and Toulouse regions, where the relative increase in pupil numbers is 108 and 129 per cent respectively, the enrolment share is around 76 and 70 per cent. These variations, as we saw when considering the calculation method, are partly due to the initial enrolment rate levels but they nevertheless teach some important lessons as regards the disparities.

Thus, as column 8 in Table 73 shows, the demographic effect is responsible for 24.3 per cent at the least (Caen), over 40.5 per cent on average and 70.8 per cent at the most (Paris) of the increase in the number of pupils.

This means that, given the approach we are taking, the regional disparities already in existence in 1954 are still the essential foundation of the disparities in 1962, accentuated or alleviated by the varying regional increase due to enrolment.

We have in fact considered there to be a certain dependence and a certain shifting in the complex relationships that the social classes maintain with the socio-economic structures, relationships that are revealed by the specific types of attitude to

TABLE 73

Calculation results

	1	2	3	4	5	6	7	8	9	10	11
	$_0w^i$	$_0S^i$	$_0w^i \Delta P^i$	$\Delta w^i(_0P^i+\Delta P^i)$	$\frac{\Delta w^i(_0P^i+\Delta P^i)}{_0S^i}$	$_1S^i$	$\frac{_1S^i-{_0S^i}}{_0S^i}$	$\frac{5}{7}$	e_i	$_0P^i(*)$	$_0P'^i$
		10^3	10^3	10^3	%	10^3		%		$^0/_{000}$	$^0/_{000}$
Paris	50.6	294.5	108.1	77.5	26.3	560.1	0.90	29.2	0.46	2,191	1,516
Aix	45.4	104.3	45.9	52.6	50.4	202.8	0.94	53.6	0.80	776	598
Montpellier	41.9	50.2	25.5	34.8	69.3	110.5	1.20	57.8	1.21	374	312
Lyon	40.1	68.3	29.4	37.9	55.5	135.6	0.99	56.1	0.97	508	444
Toulouse	36.9	62.8	24.0	57.0	90.8	143.8	1.29	70.4	1.58	467	443
Clermont	36.6	52.6	17.2	33.3	63.3	103.1	0.96	65.9	1.10	391	374
Besançon	35.8	30.0	12.3	19.4	64.7	61.7	1.06	61.0	1.13	223	218
Grenoble	35.2	57.8	22.2	41.3	71.5	121.3	1.10	65.0	1.24	430	428
Bordeaux	34.1	64.8	27.6	43.9	67.7	136.3	1.10	61.5	1.18	482	495
Rennes	33.1	87.2	29.3	51.2	58.7	167.7	0.92	63.8	1.02	649	686
Nancy	32.2	35.5	19.1	20.0	56.3	74.6	1.10	51.2	0.98	264	287
Dijon	29.3	35.5	15.7	22.9	64.5	74.1	1.09	59.2	1.12	264	315
Lille	29.1	100.4	58.3	75.6	75.3	234.8	1.34	56.2	1.31	746	899
Poitiers	28.6	44.8	17.3	29.0	64.7	91.1	1.03	62.8	1.13	333	408
Strasbourg	28.3	55.0	18.3	27.3	49.6	100.6	0.83	59.8	0.86	409	506
Reims	27.6	41.4	21.0	29.6	71.5	92.0	1.22	58.6	1.24	308	391
Nantes	26.8	43.5	19.6	29.0	66.7	92.1	1.12	59.6	1.16	324	423
Orleans	25.8	41.0	19.2	30.0	73.2	90.2	1.20	61.0	1.27	305	414
Caen	23.1	74.8	19.2	60.6	81.0	154.6	1.07	75.7	1.41	556	843

$\sum_{i=1}^{19} \Delta w^i (_0P^i + \Delta P^i)$ 772.9

$\Delta m = \frac{1}{19} \sum_{i=1}^{19} \Delta w^i (_0P^i + \Delta P^i)$ 40.7

$\sum_{i=1}^{19} {}_0S^i$ 1344.4 2,747.0 10,000 10,000

$m = \frac{1}{19} \sum_{i=1}^{19} S^i$ 70.8

$\sum_{i=1}^{19} {}_0w^i \Delta P^i$ 629.7 $\frac{\Delta m}{m} = 57.5$

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*) Pi is the distribution of the at-school population in 1954 (denoted by o) by academic region inspectorate, and oP'i that of the school age population.

Δm is the average increase in enrolment effect in the regions, m the average numbers at school in 1954 ($m = \frac{oSi}{19}$) and r the relative growth in the average of the two effects (or average) from 1954 to 1962.

e_i = "coefficient of elasticity". (e_i is not a true coefficient of elasticity, hence the inverted commas).

education and the value placed on it. Thus, given an unchanged regional demographic structure, an enrolment rate higher in 1962 than in 1954 is due to social classes in which changes have taken place in the occupational structure or in attitudes towards education, or both at once. On this basis, the relative growth rate in enrolment effect shown in column 5 of Table 73 can be taken to represent trends in the various regions.

To see whether these changes lessen or accentuate the regional inequalities, a last relationship needs to be established: that between the relative growth in enrolment effect for each region and the relative growth in the average of the two effects. This is a way of determining "coefficients of elasticity"(1). This coefficient will tell us in which regions enrolment effect has grown faster or slower than, or remained proportional to, the average. On the basis of these "coefficients of elasticity" we can group the regions into three categories:

Category I Paris, Aix, Montpellier, Lyon.
Category II Caen, Orleans, Nantes, Reims, Toulouse.
Category III Bordeaux, Grenoble, Lille, Besançon, Clermont-Ferrand, Dijon, Poitiers, Rennes, Nancy, Strasbourg.

In 1954, Category I regions had enrolment rates of over 40 per cent and covered 38.5 per cent of the at-school population. The enrolment effect grows much more slowly than the average: $\bar{\bar{e}}$ (weighted) = 0.71.

Category II regions (except for Toulouse) had the lowest enrolment rates in 1954 and totalled 19.6 per cent of the at-school population. But the enrolment rate here grows much faster than the average: $\bar{\bar{e}}$ (weighted) = 1.37 (excluding Toulouse, $\bar{\bar{e}}$ = 1.31).

Category III regions, with their somewhat heterogeneous enrolment rates (28.3 per cent to 36.6 per cent) shared 41.9 per cent of the at-school population in 1954. Here the enrolment effect grows roughly in proportion to the average rate: $\bar{\bar{e}}$ (weighted) = 1.12.

Since the growth of the enrolment effect in the majority of regions with lower than average or very low enrolment rates in 1954 is above average, whereas in the others it is below average, it would seem admissible to conclude that there has been a slight but real correction of regional disparities in enrolment rates. But it must be pointed out that the improvement could be better appreciated had some of the parameters characterising the school system developed favourably, in particular the coefficients of transfer between classes and at the end of compulsory school attendance. In other words, the conclusion that between 1954 and 1962 there was a slight alleviation of the regional disparities in enrolment rates in correlation with the considerable growth in numbers of school-children does not provide any comment on the mechanisms at the root of the disparities, and these mechanisms seem to us of the highest significance in relation to the democratisation suggested by this alleviation.

As a very rough guide we propose now to present and analyse certain data that will help to pinpoint these important mechanisms. Table 74 confirms the importance of the

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1) These are not true coefficients of elasticity - hence the inverted commas. They are ratios between two dependent relative growths.

parameter representing coefficient of transfer at the end of compulsory schooling: "output flows"(1) are seen to vary from 0.7 per cent (Paris) to 27.5 per cent (Strasbourg) of the 13 year old population in 1966-1967, and this suggests that, considering the whole of the educational structure from nursery school to university, it is at the end of compulsory schooling that regional disparities in enrolment rates come out most sharply. But at the aggregative level we have adopted in the present context, and since we are dealing with secondary education overall, the differentiations in enrolment rate seem to arise essentially from a series of differentiations coming into being on the intake of successive yearly cohorts into the 7ème. These differentiations, therefore, which we shall call original, are juxtaposed and are a mix of the traits characterising each 6ème intake in its school progress according to region, which may be predominantly rural or urban, and have a social and occupational make-up favouring, or otherwise, the continually rising enrolment figure.

Depending on whether regions are predominantly rural or urban (see INED map 216-54) we can, by reference to Table 75, lines 1962-63, and using a suitable weighting system, consider rates of admission into 6ème classes characteristic of rural communes and urban areas of small, medium and large size. Given the information available we shall use as an indicator the variation in the 6ème admission rates, which range from 42 per cent in rural communes to 64 per cent in the urban areas with 50,000 - 200,000 inhabitants and 75 per cent in the Paris area. These rates, together with the figures in Table 76 have, as we shall see, a vital importance since if statistically the likelihood of 1,000 CM2, or 7ème, leavers being or not being in 6ème one year later varies over this very wide range, depending on whether they live in a rural or urban area, the regional differentiations we have called "original" are the consequences of the differential losses thus incurred. Nevertheless, once this risk - which is almost a watershed since the probability thereafter of reaching the 2nde in the scheduled five years varies only from 74.4 per cent (urban areas of under 10,000) to 83.9 per cent (rural communes) - has been negotiated, the "survivors", depending on time at school and location, suffer fresh differential depletion, albeit of very minor importance. It would seem important incidentally to stress that the probability of survival in the 6ème is 33 per cent for lycées and 39.5 per cent for CEG in the Paris area, 15 per cent and 27 per cent in rural communes and 45 per cent and 18.6 per cent in urban areas of 50,000 to 200,000 inhabitants. These probability rates are highly significant: as we saw when discussing social disparities, pupils need not merely be in the 6ème but in the lycée 6ème (and if possible in an urban area) to have the maximum likelihood of reaching the senior forms. The trend in the 6ème entrance rate, which constitutes a reliable democratisation index, thus masks the true relationship existing between the opportunities presented by the CEG and lycée sub-groups which do not offer identical prospects of scholastic success, similar rates of progress or the same chances of reaching the top of the socio-occupational hierarchy. It looks very much, therefore, as Table 77 confirms, that the democratisation suggested by the alleviation of the regional disparities is related to a selection mechanism combining the effects of geographical location, social origin and school structure. This seems decisive since, whilst the determining factors are and remain the social classes and their related conditions (the latter, of course, differing by region, at least insofar as style of life and type of activity are concerned) there is no certainty, as regards numbers at school,

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1) Source: Ministry of Education "Notes d'information", service central des statistiques et de la conjoncture, Nos. 18 and 20 of 21st April and 12th May, 1969.

TABLE 74

Leaving rates from full-time schooling structures for the first generation affected by the raising of the minimum school-leaving age

By academic region

Academic region	Generation born in 1953			
	13-year-old population in 1966-67	13-year olds in primary education	% of this generation in primary education	% of 13-year-old population in 1966-67 leaving school(a) in 1967-68(b)
Aix	30,192	12,301	40.7	7.2
Amiens	28,434	14,227	50.0	15.4
Besançon	16,917	7,541	44.6	12.0
Bordeaux	38,407	15,304	39.8	13.0
Caen	32,814	15,304	46.6	18.5
Clermont	20,871	8,745	41.9	14.1
Dijon	25,355	12,859	50.7	20.2
Grenoble	33,899	13,151	38.8	11.8
Lille	70,430	34,534	49.0	9.7
Limoges	10,804	4,534	42.0	14.0
Lyon	34,990	15,254	43.6	10.0
Montpellier	25,625	8,412	32.8	7.8
Nancy	23,837	11,736	49.2	8.6
Nantes	33,661	15,815	47.0	23.7
Nice	19,541	6,644	34.0	8.5
Orleans	33,236	17,522	52.7	25.6
Paris	124,400	46,292	37.2	0.7
Poitiers	26,144	13,898	53.2	23.5
Reims	22,953	11,570	50.4	14.1
Rennes	46,572	17,922	38.5	15.6
Rouen	27,316	16,331	59.8	19.4
Strasbourg	41,442	21,855	52.7	27.5
Toulouse	33,612	9,922	29.5	9.3
All France	801,452	351,673	43.9	12.9

a) Full-time.

b) To work out leaving rates the 14-year-old population for 1967-68 was estimated, and an estimate of the number not at school deducted from it. The school-age population was calculated by reference to the 13-year-old figure for the previous year corrected by a migration coefficient between 1966-67 and 1967-68 based on the population aged 12 and 13 respectively. There is a difference in the figures for All France in the I.N.S.E.E. and Ministry of Education estimates of the 13-year-old population (-1%). This discrepancy is carried over into the 14-year-old estimates. For this reason the 14-year-old population estimates, the number of 14-year-olds at school and the leaving rates shown in the table are under-stated.

TABLE 75

Table showing school distribution of cohorts of 1,000 pupils in different living areas

School year (1)	Pupils		Secondary education 6ème		
			Total		
	At school (2)	Not at school (3)	C.E.G. (4)	Lycée (5)	Both (6)
1961-62	1000	-	-	-	-
Rural communes (41.6%) 1962-63	969	31	273	149	422
Urban areas of less than 10,000 inhabitants (16.4%) 1962-63	971	29	380	198	578
Urban areas of 10,000 to 50,000 inhabitants (14.5%) 1962-63	997	3	242	426	668
Urban areas of 50,000 to 200,000 inhabitants (11.7%) 1962-63	984	16	186	452	638
Urban areas of over 200,000 inhabitants (7.7%) 1962-63	987	13	213	436	649
Paris area (8.1%) 1962-63	995	5	395	333	728

Column 6 shows survival probability, i.e. the probability of the 1,000 pupils leaving the CM2 or 7ème being in the 6ème the following year.

Columns 2 and 3 add up to the total pupils concerned in each case. The table is taken from Table XI prepared by Messrs. A. Girard and H. Bastide and published in **Population**, March-April 1969, No. 2.

TABLE 76

Table of enrolments (taken from Population No. [illegible] March-April 1969)

School year enf [illegible] = [illegible]	Pupils		Secondary education		
			Total		
	At school	Not at school	C.E.G.	Lycée	Both [illegible]
1961 - 62	1,000	-	-	-	-
Rural communes (41.0%)					
1962 - 63	969	31	273	149	422
1966 - 67	581	419	134	220	354
= [illegible]%					
Urban areas of less than 10,000 inhabitants (15.4%)					
1962 - 63	971	29	380	198	578
1966 - 67	652	348	135	295	430
= [illegible]%					
Urban areas of 10,000 to 50,000 inhabitants ([illegible]%)					
1962 - 63	997	3	242	426	668
1966 - 67	764	236	129	406	535
= [illegible]%					
Urban areas of 50,000 to 200,000 inhabitants ([illegible]%)					
1962 - 63	984	16	186	452	638
1966 - 67	718	282	106	407	513
= [illegible]%					
Urban areas of over 200,000 inhabitants (7.7%)					
1962 - 63	987	13	213	436	649
1966 - 67	735	265	111	451	562
= [illegible]%					
Paris area ([illegible]%)					
1962 - 63	995	5	395	333	728
1966 - 67	815	185	130	430	560
= [illegible]%					

that school structure is not at least partly responsible for inflating them. It looks even as though the increase in numbers helps to maintain this structure by a kind of differentiation in the types of education of which it is made up which do not offer children a promise of the same scholastic future.

Conclusion

The French education system, as far as can be judged from past results, thus seems to be characterised by an extremely low output and persistent regional and, above all, social inequalities. These inequalities are particularly in evidence when streaming takes place at the end of primary education into this or that type of education, a process that conditions both the scholastic and occupational future of the pupil concerned. Until recently it appears as though those responsible for education have been mainly concerned with increasing the numbers of children and young persons at school in the face of demographic and social pressures. They have been much less preoccupied with making those basic reforms in education that are necessary to meet the pupils' diversified needs and giving them the training suited to their inclinations and aptitudes. The main reasons for this, without doubt, are the lack of importance attached to educational research and the absence of co-ordination in the various reform proposals. Moreover, even the manpower requirements at the various levels of qualifications have not been satisfied. This serves only to highlight in a more striking way the contrast between the material input into the education system made by society and the satisfaction obtained by this society.

TABLE 77

Distribution of 6ème pupils by
academic region in lycées and general secondary schools
(CEG)

Academic Regions	1957/1958		1960/1961		1965/1966	
	Lycées	CEG	Lycées	CEG	Lycées	CEG
Aix	64.2	35.8	60.3	39.7	50.8	49.2
Amiens					30.7	69.3
Besançon	53.6	46.4	47.9	52.1	39.2	60.8
Bordeaux	55.9	44.1	50.4	49.6	41.1	58.9
Caen	54.0	46.0	45.6	54.4	18.2	81.8
Clermont	55.5	44.5	46.2	53.8	39.9	60.1
Dijon	50.9	49.1	47.0	53.0	43.0	57.0
Grenoble	66.7	33.3	62.2	37.8	59.3	40.7
Lille	50.6	49.4	41.7	58.3	33.5	66.5
Lyon	67.6	32.4	57.0	43.0	50.8	49.2
Limoges					49.3	50.7
Montpellier	53.9	46.1	51.5	48.5	43.8	56.2
Nancy	60.3	39.7	53.0	47.0	38.9	61.1
Nantes	69.6	30.4	58.5	41.5	43.6	56.4
Nice					55.2	44.8
Orléans	58.0	42.0	45.8	54.2	37.5	62.5
Paris	49.9	50.1	42.7	57.3	24.0	76.0
Poitiers	61.7	38.3	50.5	49.5	38.2	62.4
Reims	64.0	36.0	54.8	45.2	37.6	62.4
Rennes	49.1	50.9	44.7	55.3	38.8	61.2
Rouen					42.1	57.9
Strasbourg	77.9	22.1	68.5	31.5	44.9	55.1
Toulouse	56.4	43.6	48.6	51.4	42.2	57.8
All France	56.8	43.2	49.5	50.5	40.7	59.3

Source: Informations Statistiques No. 58 - pp. 115-122, No. 84-85 p. 395 et seq.

Chapter IV

UNSATISFIED MANPOWER REQUIREMENTS

In spite of a considerable quantitative growth in enrolments and financial resources, the previous chapters have shown the weaknesses of the education system as regards output and democratisation. But another question may be asked: to what extent has the system satisfied in the past, and can satisfy in the short and medium term, the need for qualified manpower of various levels?(1)

Because of the lack of adequate means for statistical investigation, it is very difficult to get an idea of the actual imbalance between the need for and availability of qualified personnel in the past. All we know is that social progress without accompanying training has been considerable, possibly exceeding reasonable limits, and that this has entailed equally excessive reductions in standards in the working population.

An optimal rate of growth of the economy is chosen at the time each economic and social development plan is prepared. It is the highest possible, taking into consideration political choices and rigidities and possibilities of adjusting the economic mechanism.

The employment level is a phenomenon which plays the dual role of limiting and adjusting the choice of a growth rate. This rate must be high enough to ensure fullest possible employment, but account must also be taken of the number and quality of trained personnel which can be recruited. It therefore seems difficult to choose a growth rate without defining an employment policy. But, because of the lack of precise data on the probable trends of qualifications, employment structures, and the content of various activities, manpower requirements can be forecast for only the very short term and for rather narrowly defined areas of activity. In any case, no comparison was possible with the foreseeable output of the education system in the medium and long term.

When the Fourth Plan (1961-65) was being prepared, an attempt was first made to define the different levels of qualification based on the duration of study. This criterion was too abstract to allow a sufficiently precise comparison to be made between those leaving the education system and those entering the labour force. When the Fifth Plan (1966-70) was being prepared, the work on restructuring the education system which had been done in 1964-65(2), organising the stages of streaming in conjunction with the

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1) Only a few results will be given here. For information in greater detail on manpower and recorded trends, see Book III which is devoted to educational planning.

2) Cf. Book II.

level of training reached, allowed standards to be given at the different points of contact between the education system and working life. At each stage the reform created a terminal training for each occupational category. The following table shows the equivalence:

TABLE 78

Equivalence between occupational categories and qualification levels(1)

Level	Average no. of years of study	Level of diploma	Occupational Category
I	11	(Licence (Doctorat (Diplôme d'ingénieur	Commercial and administrative executives - engineers
II	9	((	Commercial and administrative executives - engineers
III	7	DUT(2) CFEN(3)	Commercial and administrative executives - industrial designers
IV	5	Baccalauréat BT(4)	Foremen - clerical workers
V	3-4	CAP(5) BEP(6)	Clerical workers - skilled manual workers
VI	On leaving school	No qualifications	Specialised manual workers - labourers

Source: Rapports des Commissions de la Main d'oeuvre (Reports of the Commissions on Manpower) of the Fourth and Fifth Plans.

Notes:
1) Levels acquired by year of study after the observation period (first two years of first secondary cycle).
2) Diplôme universitaire de technologie: short higher education.
3) Certificat de fin d'études normales: which sanctions the training of primary school teachers.
4) Brevet de technicien.
5) Certificat d'aptitude professionnelle: obtained in 3 years.
6) Brevet d'enseignement professionnelle: 2 years.

On this basis, recruitment requirements were drawn up for the period 1962-1978.

The Commission on School, University and Sports Equipment under the Fifth Plan, learning of the work of the Commission on Manpower, integrated into its report a diagram of the average flux of school and university enrolments for 1972-75.

All these data were then submitted to the "training-progress" inter-group whose task was to establish a relationship, never done before, between the need for trained workers and the output of the training mechanism in the medium and long term.

Allowance being made for expected immigration during the period and the reduction in numbers doing military service compared with 1962, the tabulation, by level, of requirements and primary resources is as follows:

TABLE 79

Recruitment requirements and educational flow
(1962-1978)

	Recruitment requirements (in thousands)	Resources of trained manpower (in thousands)	Difference		Average annual difference (in thousands)
			in thousands	%	
Levels I, II and III	2,269.5	1,625	- 644.5	- 29	- 40.3
Level IV	1,337.9	1,170	- 167.9	- 13	- 10.5
Level V	4,615.3	3,490	- 1,125.3	- 25	- 70.3
Level VI	2,440.3	4,378	+ 1,937.7	+ 79	+ 121.1
Total	10,663.0	10,663			

Source: Report of the Inter-group on training and promotion, May 1967.

This table calls for some comments:

- the average annual difference is purely indicative and never corresponds to an actual situation; it should decrease with the gradual implementation of the Fifth Plan;
- deficits observed at a given level are offset by secondary resources drawn from the active population stock at the level immediately below, thus increasing proportionately the deficit at that level. The differences are therefore only apparent;
- the real deficits show the extent of the out-of-school training and promotion effort which, as one sees, will be very considerable;
- this table deals with requirements and primary resources, i.e. not taking into account professional mobility or retraining.

This comparison between primary needs and resources is, in reality, very summary for two reasons: first, the forecasts of recruitment requirements are doubtful in view of the lack of information on employment structures and the content of various activities; secondly, the forecasts which could be made concerning the training mechanism are few and unreliable (cf. Book III).

Despite the uncertain character of such statistics, a number of conclusions may be drawn from Table 79.

First of all, there seems to be a very definite surplus of human resources at Level VI (end of compulsory schooling without qualifications) which is serious in a period of technical progress, above all when shortages are appearing at higher levels (as is the case here). One might well think that this will act as a brake on economic growth.

The comparatively insignificant shortage at Level IV (Baccalauréat level) should not be misinterpreted for it conceals a very substantial shortage of technicians offset by the number of non-technical holders of the Baccalauréat, many of whom should be channelled to the IUT's to satisfy the needs at Level III.

Despite the uncertainties surrounding a still very experimental piece of work, the conclusions drawn by the Inter-group for the period 1962-1978 are as follows: It seems that the shortages will be greatest at Levels III and IV. But an overall assessment of Levels I-III (training beyond Baccalauréat level) shows that primary resources are growing more rapidly than demand. In the future, this wil alter the process of automatic promotion which, in the earlier period, was very important. At Level V, the rate of satisfying needs varies from one profession to another, and professional mobility will be very important. Moreover, education is not properly adapted to the qualifications now required about which, it must be admitted, there is an imperfect understanding. Other figures bear out these conclusions(1). If the demands for the period 1962-1978 are considered together for Levels I-V, inclusive, in terms of annual training requirements, then approximately 630,000 persons will have to be trained annually over the 16 years, not taking into account specific needs arising from social progress.

Compared with the resources provided at present by the education system, these goals will satisfy the following percentages of the economy's demands:

99% of qualified manual workers
38% of qualified technicians
34% of qualified higher technicians (IUT)
58% of qualified engineers and executives.

The situation varies according to the sector concerned; it is the sectors of metallurgy, construction and chemicals that have been most affected. Such a state of affairs risks slowing down the growth in these fields. From 1962 to 1969 the various sectors of activity contributed to growth of the economy in the following proportions:(2)

Agriculture	16%
Agricultural and food industries	40%
Industry, construction, public works	56%
Trade and services	48%

During this period, therefore, the industrial sector played a more important part in economic growth than the tertiary sector. If the industrial sector finds its growth slowed down by an over-development of the tertiary sector in an economy which has not reached the corresponding stage of development (which is the case in France), there is the danger that a sort of under-development will be the final result. During the same period, at Baccalauréat level, terminal science courses lost ground(3) steadily to the literacy courses, contrary to the forecasts of the Fifth Plan. From 1965-66 to 1968-69 the proportion of pupils in terminal literary courses grew from 46 per cent to 56.5 per cent, whereas the Fifth Plan envisaged for 1972-73 a proportion of 48 per cent.

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1) "La Formation professionnelle en France" (Professional Training in France) Commission des Communautés Européennes. September 1969. G. Durrey, Chef du Service central des statistiques et de la conjoncture du Ministère de l'Education nationale.

2) Speech made by Monsieur Billecocq, State Secretary for Education - 18th September, 1969.

3) For 1970 this downward trend is somewhat reduced.

Economic growth, therefore, calls for a development which correlates training methods with an adaptation of the system to its purpose. Any delay in the realisation of the reforms being made, given the spontaneous growth in education, will mean a large number of too specialised or insufficiently trained people for the labour market. This is serious at a time when professional qualifications required are being changed which, in turn, necessitates a basic transformation in the content of training.

Conclusions

VARIOUS INNOVATIONS AND PROBLEMS RAISED BY THEIR INTEGRATION

The essential reason for such a low output from a far from negligible financial outlay is, it seems, the delay of the various responsible authorities over fifteen years to prepare and support the educational reforms which have proved themselves indispensable in view of the changes in French society and the growth of the demand for education. Moreover, the various innovations of the past ten years have not been effectively integrated into the education system. These concluding paragraphs will themselves serve as an introduction to the account of the structural reforms inasmuch as they attempt to answer the major problems which were raised.

An education system is slow in its reaction to reform and it is therefore difficult to relate the facts given in Book I to a description of the structural changes affecting the system since 1959. Nevertheless it does not seem as though these successive or simultaneous reforms at the various levels of education have achieved their purpose, as the crisis of May-June 1968 proved. Therefore we need to look into the main qualitative characteristics of a system whose poor output has already been demonstrated in the preceding chapters.

A very large number of modifications made to the education system in recent years have mainly concerned structures. But the actual objectives of these new structures can be really attained only if the content, methods, and in fact the style of teaching are gradually changed.

1. Structural changes and their limits

The structures of the French school system, in particular those of higher and traditional secondary education, were badly shaken by the changeover from education for a restricted number of pupils and students to mass education. Large numbers of schoolchildren from far more heterogeneous social backgrounds than before were finding their way into secondary and, later, higher education. The urgency of the quantitative problems (number of pupils to be provided for) peculiar to each level which had to be solved either successively or simultaneously, on the one hand, and on the other the weight of tradition which caused this system of teaching to be considered as a model, have made an overall structural reform more difficult than elsewhere.

Partial structural reforms and their influence

Thus the introduction of a first observation and guidance cycle in the secondary schools was not part of an overall principle making (extended) compulsory schooling a single unit with its own purpose and harmonizing the movement of pupils from primary into secondary education. Structural reforms in higher education were related only to universities. The various Grandes Ecoles independent of the Ministry of Education, in particular the graduate schools of engineering, whose purpose and role in a reformed education system have been the subject of analysis and reform proposals(1), were outside the scope of the changes. One of the objectives of the reforms in the science faculties thus was to sift out an elite of research workers from among the students in the faculty in order to make up for the losses of the best mathematics, physics and chemistry students to preparatory classes and the Grandes Ecoles. Discipline compartmentation was taken back to the very earliest years and efforts to create links with the second cycle of secondary education resulted, here too, in strengthening the system of sections already considered to be highly watertight.

Structural reform and teacher training

Lack of adequate R and D expansion in the field of education(2) made it impossible to introduce immediately a complete revision of teacher training into the 1966 reform of university teaching. It may have been feared that the separation of the university teaching diploma from the "maîtrise" (master's degree), necessary for research, in the science faculty might be a handicap for some aspects of academic training. Moreover it was only after the 1966 reform was put into effect that the breakdown into a larger number of sections in the first part of higher education made it more difficult to organise the bivalent training required by teachers in Collèges d'enseignement général sections (in lower secondary schools). This new structure did not in fact help to diminish the over-specialisation of secondary teachers, the implications of which will be demonstrated in Book III of this report.

Limited extension of observation and guidance mechanisms

Coexistence of different types of education requires the organisation of transfers between types of education and establishments at the same level but which retain their own characteristics. Indeed the development of observation and guidance mechanisms was incompatible with a heterogeneous system (scattered establishment location and compartmented sectional structure). It was systematised only at lower secondary education level although many young people were expecting the mechanism to act to their advantage and that of the education system itself for the whole duration of their schooling, however long. If this observation mechanism, therefore, whose impact is decisive during the first and/or second year of a given cycle, were to be extended it needed a greater integration of literary, scientific and technical education at both secondary and first higher education levels. So means of interchange were introduced, but there is a limit to the extent to which these and the "remove" and "adaptation" classes can be multiplied without overcomplicating the structure of the system and immobilising human and material resources. It was therefore logical, even disregarding curricula, for many pupils and students on transfer from one level to another or one establishment to another at the same level to encounter difficulties of adaptation in the absence of structures providing a minimum of continuity in the teaching given.

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1) The special position of the Grandes Ecoles and the possible changes to be made in their role have been considered by an official study group: "Les conditions de développement, de recrutement, de fonctionnement et de localisation des grandes écoles en France", (The conditions of development, recruitment, operation and location of the Grandes Ecoles in France) published in La Documentation Française - 1964. The OECD report "Reviews of National Science Policy - France" also deals with this problem under item II in Part I.

2) See Book III (Introduction II).

Conclusion: Structural changes are inseparable from educational curricula and style

The structural reforms were thus numerous; for different levels they were introduced at different dates. As their lack of unity shows up their general weakness, so the results obtained for individual levels or types of education fell short of the objectives officially set by the reforms. In some cases lack of resources can be blamed as, for example, in the case of the restructuring of the first secondary education cycle, the effects of which react on the conditions of access to the second cycle (the "short" cycle in particular). But it seems as though, no matter how integrated a structural reform may be from top to bottom of the "educational pyramid", it cannot be absolutely separated from the content, method, programmes, spirit, style, etc. characterising the operation of the education system itself. Basically a structure is defined as "the manner in which the parts of a whole are arranged among themselves". It is always possible for the opposition forces within the school system to accept the innovation, "dilute" it in the physical operation of the system and maintain an education which basically will have remained unchanged(1) behind a "new show-window".

2. The fundamental role of the content, methods and style of education

The content of an education system invariably reflects a country's cultural past. In France's case successive periods in her history have resulted in the predominance of a culture based on the abstract and dominated by the classical humanities.

The multiplication of "cultures" and their hierarchy

The result of this has been to place a premium, in assessment of pupils, on verbal agility, whilst at the same time a certain facility of expression tends to be acquired, for the same level of intelligence, outside school, especially in the family environment. What is more a hierarchy came naturally into being: so-called "classic" culture had the premier position followed by so-called "scientific" culture, whilst "technical" culture had subordinate rank. So "cultures" were talked about instead of a culture allowing a man of the 20th or even the early 21st century to understand his environment and thus be able to alter it and live in it. Pupils considered unfit to follow so-called classical education were thus "relegated" to what could be called modern sections or to technical education. The latter, in an effort to win the position due to it in a society where technical progress was making its influence more and more felt, tended to add on to its specialised instruction a substantial proportion of general teaching, thus overloading the course programmes and increasing the difficulties of those taught coming from disadvantaged social strata.

The spirit of education

At all levels of education, theory failed to be linked with practice or the abstract with the concrete. Applied knowledge was rated inferior to theoretical knowledge. There was reluctance to admit that the one complemented the other and that progress in knowledge can result from a continual interchange between theory and practice. Thus the immediate environment of the school has provided no support for the latter. Instead of trying to master, adopt and adapt certain techniques and knowledge developed by other

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1) For a specific example, concerning more especially French university education, refer to the study by Messrs. Passeron and Grignon: Innovation dans l'enseignement supérieur, Expériences françaises avant 1968. (French Experience before 1968), OECD, 1970.

forms of education (the "parallel school"), the French school system, with some exceptions, seems on the contrary to have been isolated even more, faced with what it may have considered, at best, competition and, at worst, a danger of contamination for its traditional culture. However, in an increasingly unstable environment, an education system which is not sufficiently "irradiated" by this environment runs the risk of conveying knowledge which becomes less and less adapted to the present and the future.

Curricula and their content

The awareness that curricula were out of date has not always meant that they were "trimmed", nor of course completely revised; the need to act quickly has sometimes resulted in the adding of new knowledge to old, so that the encylopaedic type of education this gave rise to obviously made greater call on memory work. The memory, however, should have been kept the tool of the intellect and reflective powers developed by discussion, explanation, using a variety of textual material, documents, case studies and sometimes extra-mural activities.

The long-held idea that the "elite" is defined more by the small number to have completed an "obstacle course" than by the level of training achieved has reinforced the importance of examinations and multiplied their numbers. They obviously give more weight to the role of the memory to the extent that, being the reflection of the education they terminate, they tend to check on the existence of a stock of knowledge. But as it has developed in importance this phenomenon has had two consequences: it tends to perpetuate and accentuate the privilege enjoyed by those able to make their way to this type of culture; it consequently deflects students, in the months preceding each examination, from really formative work. The system of monitoring the knowledge gained is itself distorted. The marks given to pupils and students tend to be defined in relation to a future examination or competition and not as a means of situating pupils at a given moment in relation to the knowledge and training they should have acquired.

Training and adaptation to contemporary life

The system of transmitting knowledge by a specialised teacher, in particular those giving courses of lectures in higher education, combined with the large numbers of examinations and the priority given to memorising has two other consequences. First, it may not call for sufficiently active participation on the part of the student in or outside the class and, secondly, it promotes individual work in preference to teamwork, although the latter is becoming more and more the rule in the various sectors of society. Students learn, think and act on their own. This individual competition becomes keen when school entrance and leaving examinations lead to pass lists classified by merit, linked to possible appointments in this or that occupation. Another example is the lengthy individual work required for preparing state doctorate arts or science theses. In addition, at the highest educational level, team work has not increased very much because of the trend towards single-subject syllabuses and research.

This situation was accompanied, in establishments that had outgrown human dimensions, by the almost complete absence of any participation on the part of the users (students, parents, miscellaneous groups) in their development and management. The centralisation of Napoleonic origin, which should have had a co-ordinating and stimulating effect as education developed, has in actual fact smothered and paralysed initiative. Thus, a social institution has been allowed to develop which, instead of being in a state of symbiosis with the society in which it is placed, has little by little cut itself off from local, regional and national reality.

Lastly, unbalanced curricula weighted against scientific and technical education at the secondary level have affected the ouput of higher level graduates. In spite of the considerable cuts in faculty numbers, students are still there in strength and outlets for them are unsure, whilst at the same time the Plan's objectives as regards scientific education are not being achieved.

It is hardly necessary to stress that this isolated work by students (and by many of the teachers too) is the direct opposite of a true individualisation of education embracing the physical, affective and mental development of child and youth. Since, therefore, selection is based on a range of aptitudes corresponding to compartmented divisions of education, it is seen that it becomes the pupil's task to adapt to the school, and not the reverse. The continuous selection process which precedes or impedes real training tends to rob observation and guidance of their meaning and to relegate pupils of humbler origins to types of education that are considered inferior or to off-load them completely from the system when the qualifications earned, insufficiently broad or formative enough, cannot subsequently be built on for education leading to social betterment or for continuing education.

Conclusion: education for the mass and for the elite

The cultural and training needs of our times make it necessary to change over from a system of education for the elite to one for the masses. Education cannot be changed, however, from one day to the next, particularly when it still enjoys the prestige which has been its strength in the past. This is even more true since it seemed to many - particularly to the most ardent of the reformers - that several aspects of what was known as "general culture" in France should not only not be abandoned, but should be given even greater importance when reshaping training as a whole to meet contemporary needs. The amount of thinking required to precede such a deep-rooted change has not always appeared compatible with the short-term solutions which had to be adopted to meet the numerical pressure the different levels and types of education have undergone during the past 15 years. The chapters of Part Two have shown the danger of waste of talent which exists in a system of education conceived for an elite rather than for the mass, but to which access by the mass is growing rapidly. Another danger is that although various excellent innovations have been introduced - some of them, such as nursery schools, have existed for some time now - they have not produced the desired results because changes that were needed above or below the level concerned were not made. It is in the light of these considerations that we shall undertake a detailed description of the structures brought about by the successive reforms in the various types and levels of education. This description will be the purpose of Book II of the report.

BOOK II

STRUCTURE AND CONTENT OF THE EDUCATION SYSTEM

Introduction

The first part of this study revealed that an education system whose structure and content were no longer able to cope with the full flow of new age groups was bound to decline in efficiency. However great its merits had been in the past, it was clear that this system could no longer provide a training suited to present-day requirements.

Over the last ten years, the French authorities have therefore been working on a reform of the education system. If the structural improvements introduced at the beginning of the period were not always supported by far-reaching reforms in content and style, the last few years have witnessed a speed-up in the latter field as well.

Book II does not attempt a general critical analysis of the whole situation. This would be difficult, for the trends in an education system take a long time to trace and little research has been done on this problem. The purpose of Book II is therefore to provide detailed information on the structures of the system and its content, these two questions being dealt with in Part One and Part Two, respectively.

Part One

STRUCTURES

Part One deals more especially with the structural aspect of the changes made in the education system since 1959. In the chapters which provide details of the structural reforms, a distinction will be made between the compulsory and the non-compulsory periods. This distinction does, in fact, seem to be the basic one and helps to relate problems to their proper category.

The main result of the raising of the school-leaving age has been to give all enrollable children access to secondary education in the form of a common four-year first cycle. This new nine-year period of compulsory schooling has not yet become fully homogeneous, despite the reforms. But the decisions adopted since 1968-69 prove that the French authorities are shaping their policy towards this end (teaching reforms in the primary system and development of a common first cycle).

This is why the present plan has been adopted (rather than a more traditional division, e.g. primary, secondary and higher education). It seems theoretically more satisfactory and developments in the near future are bound to show that it is the right one.

Title 1

THE PERIOD OF COMPULSORY SCHOOLING

Introduction

Before we consider the structure of the present period of compulsory schooling we must consider it chronologically and show the present significance of pre-school education in France.

I. THE RAISING OF THE SCHOOL-LEAVING AGE

A) Principle

The population expansion which has affected secondary education since 1956-57 has compelled the public authorities to make new investments. The decision which had to be taken in the above years was whether the expansion in national education resulting from these investments was to be quantitative or whether it was to take a new direction involving structural changes.

The authors of the Decree of 6th January 1959 decided in favour of the latter. As investment was urgent, the money spent must be directed into channels likely to give children an education more in line with the requirements of a changing society.

This was no new idea but the result of a number of projects which had been based on the Algiers Plan of 1944 and the continuation of a movement which originated in 1919 among the "Compagnons de l'université nouvelle" and was given its first official expression in Jean Zay's reform bill of 1937.

It was accordingly decided that the period of compulsory schooling would be increased from eight to ten years (i.e. to the age of 16) for all children reaching the age of six after 1st January, 1959. This measure did not therefore come into force until 1967 thus officially ratifying a spontaneous movement, whereas its immediate application in 1959 would have affected no more than 35 per cent of the age group concerned. This national percentage nevertheless concealed considerable social and geographical disparities.

It is therefore a matter for regret that in view of the magnitude of the difficulties involved in the immediate application of this measure, the reformers delayed it so long that they have deprived it of its momentum.

A decision of this kind obviously called for syllabus reforms in the whole of this period, which covers children from 6 to 16. The period is divided into the following cycles:

- elementary schooling (6 to 11 years of age inclusive);
- the wide range of the courses which comprise the first four years of post-elementary schooling and were to constitute the first cycle of secondary education (11 to 15 inclusive);

- specialised education over this ten-year period for children requiring special facilities.

B) Application

The raising of the school-leaving age, which was decided in 1959, did not come into effect until the beginning of the 1967 school year for children born in 1953, and 1968 for those born in 1954. The sponsors of the Act considered the period allotted to be adequate and anticipated that all age groups concerned would be enrolled by the scheduled dates.

This was not achieved in practice as the new first cycle schools did not at the outset have the capacity to cope with the influx of children. Moreover, the promoters of the Fifth Plan estimated that there would not be enough Collèges d'enseignement secondaire (CES) and Collèges d'enseignement général (CEG) to cater for children at this level before the beginning of the 1972 school year.

A number of temporary measures were therefore adopted for certain children. In the first place, individual exemptions were granted to enable children to go into apprenticeship if they had reached the end of their primary school course but could not find a place in a Collège d'enseignement technique.

Secondly, an original form of training was devised in 1967 combining school and industry. This is provided by the Sections d'éducation professionnelle (vocational training sections) which are a temporary expedient to enable students who cannot find a place in the first cycle to obtain a vocational training.

In the light of these developments, it is possible to attempt to sum up the results of the raising of the school-leaving age(1).

At the point of departure in 1966-67 (children born in 1952), 74 per cent of children were enrolled on a full-time basis in the public and private education systems; 9.8 per cent of these children were in the top classes, 45.4 per cent in the first cycle and 12.6 per cent in the short vocational training course [The three-year Collèges d'enseignement technique (CET)]. Part-time enrolments accounted for 10.7 per cent and 15.4 per cent were not enrolled.

In 1967-68, the first year in which the Act became effective, 84.8 per cent of children of age 14 (born in 1953) were enrolled full-time; 11.4 per cent were in the top classes, 14.4 per cent in CET's for a three-year course and only 52.1 per cent in the first cycle of secondary education. Part-time enrolments accounted for 10.4 per cent of children and 4.8 per cent were not enrolled at all. The progress achieved in full-time enrolments will therefore be noted. However, only 66 per cent of the total number of children at first cycle level were actually enrolled in first cycle schools.

In 1968-69, 88 per cent of children of age 14 were enrolled full-time in the public and private education systems and 75.4 per cent of children of 15; but 13.2 per cent of children of 15 were not enrolled.

The raising of the school-leaving age to include 14 and 15 year olds has thus been a gradual process rather than a spectacular development and has largely taken place within the context of the old educational structures.

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1) Source: Notes d'information by the Ministry of Education, Nos. 2, 20 and 39.

II. PRE-PRIMARY EDUCATION

This type of education is for children between the ages of 2 and 6, and is not compulsory. Nevertheless, it should be considered within the overall framework of the education system in view of the rapid growth in pre-primary education enrolments and of the importance of its social and educational functions.

The social function

This was the mainspring of pre-primary education which owes its origin in 1770 to private initiative. Subsequently, parallel with industrial development and its effects on the work of mothers, the state assumed responsibility for this type of education and its organisation in accordance with the directives laid down by the Act of 30th October, 1886. A new phase of development began in 1950 and is still continuing.

The first role of pre-primary education was to ensure protection of the child against street hazards, lack of companionship, a frequently unhealthy home, the mother's absence at work, etc., and a trend was noted at this time towards the development of day-nurseries which looked after children from midday until 6.00 p.m.

After the Second World War, economic and social developments tended to reinforce this protective role (women had become accustomed to going out to work during the war, there was a desire for greater comfort, urban and industrial zones were being developed and domestic help was rapidly disappearing).

The protective role of pre-primary education has become more complex over the last 15 years since it offers special opportunities for the early diagnosis of behavioural problems in the child. In addition, the pre-primary school provides regular medical inspection and keeps individual medical records.

Finally, the social function of pre-primary education has developed substantially. Beyond its purely protective role, the nursery school appears more and more to be a very desirable, even indispensable, adjunct to the family setting, no matter how good the latter may be. For the less privileged classes,pre-primary education is important in the reduction of social inequalities and of great advantage to children coming from the more deprived socio-cultural environments.

The educational function

The educational function became evident later and, with the gradual extension of nursery schools, has tended more recently to supersede the social function.

The nursery school ensures a balanced development of the child's physical, emotional, ethical and intellectual propensities, combining the optimum conditions for the transition from family to social life. The child thus learns to find his feet and integrates with the group and society by living among his peers, exploring the environment and absorbing the rudimentary techniques of understanding. Moreover, the years between two and six are of fundamental importance in adult life; the first years of pre-school education, if successful ones, can be a determining factor.

Factors influencing the development of nursery schools

Three factors have influenced the development of nursery schools.

The spontaneous enrolment rate has risen so steeply with the increased employment of women that the need for nursery schools has become more and more evident. Secondly, this need is intensified by transfers of population and urban development, which involve the individual in a more communal way of life and give rise to new social habits.

Thirdly, owing to the quality of the education provided by a first-rate teaching body, working independently and carrying out continuous research (especially within the Association générale des institutions des écoles maternelles et des classes enfantines), the nursery school has proved its worth in the French education system as the ideal framework for developing the child's personality. From Table 80 it can be seen that France is moving towards a generalisation of this type of education for the four and five year olds.

III. STRUCTURE AND ORGANISATION OF NURSERY SCHOOLING

As nursery schooling is not compulsory, it has a structure of its own and considerable autonomy with regard to methods and possibilities of development through improved experience and the introduction of new teaching techniques.

A) Establishment and Organisation

1. Conditions for the establishment of a nursery school

A nursery school may be established by ministerial decision at the request of the municipal council of any commune of over 2,000 inhabitants. The school building is financed jointly by the state and the local community - with the state assuming the greater part - while the commune undertakes to cover operating costs for a period of not less than ten years. The school must enjoy full autonomy and be completely independent of primary education as regards organisation. It provides for children from two to six years old in three different sections. In communes with a population under 2,000, an infants' class - usually only one - at the commune's primary school takes the place of the nursery school. In any case, this class must be quite independent of the other primary school classes, since the sharing of facilities is in itself already a serious educational drawback (shared playgrounds, restricted premises, too wide a difference in age groups, basically different educational objectives).

TABLE 80

Enrolment rates by age (public and private) for pre-primary education

Age	Year: 1960-61	1967-68
2	9.9	13.5
3	35.8	50.9
4	62.7	79.3
5	81.3	89.3
6	0.1	1.9

Source: Note d'information No. 5, February 1969, Service central des statistiques et de la conjoncture (Ministry of Education) and Report of the Fifth Plan.

2. Organisation of the premises

The nursery school caters for children who need to be helped to make the transition between family and school. Hence, provision is made for the following facilities: activities room, exercise and rest rooms, toilets, dining room, kitchen and playground.

3. Teachers and other supervisory staff

The number of pupils per teacher ranges from 25 to 50, and each teacher has an assistant who is constantly at hand. She also receives regular assistance from the medical services, psychologists and departmental and general inspectors.

Nevertheless, this range of student/teacher ratios is an average and, as such, hides great inequalities. Over-crowding in some instances and the insufficient training of teachers are some of the problems of nursery schools at the present time.

Problems of over-crowding are largely due to the administrative conditions governing the establishment of nursery schools, referred to above. They are not adequately distributed throughout the country, since a little more than half the children cannot attend them; however, where they do exist, particularly in the towns, demand is too heavy. Thus, there are not enough of them and those which exist are over-crowded. Although under the Fifth Plan the number of pupils per class is in theory limited to 50, it often reaches 60 or 70 in the towns. Despite the very irregular pattern of attendance, the size of these classes often makes it impossible to apply the individual and persuasive methods of teaching broadly outlined above. It has been said that nursery schools are the victims of their own reputation, but it would seem more appropriate to put the blame on rapid population movements and the poor geographical distribution of schools whose social and educational value is no longer in doubt. Moreover, nursery schools, like other types of education, are suffering from a shortage of trained staff.

A solution must soon be found to these problems if the quality of pre-school education is not to suffer. This would be a serious setback for a type of education whose social and educational value will continue to grow.

The lack of training of the teachers runs the risk of one day marring the reputation which pre-school education previously merited. Qualification standards should be reviewed in the framework of a general reform of teacher training. Teachers should also be assisted in their work by psycho-medical and social personnel so that various problems and handicaps can be detected as soon as possible.

IV. THE ROLE OF PRE-PRIMARY EDUCATION IN THE GENERAL SCHOOL SYSTEM

The nursery school provides a general educational training as an introduction to the preparatory class of the primary school. On leaving the nursery school, the child has a reasonable command of language, and an intuitive and general notion of writing, reading and arithmetic. However, the importance of the transition to the preparatory class of the primary school has not been fully realised (we shall revert to this point later). The passage from teaching based on action and concrete experience to the more abstract and didactic primary school teaching which is sometimes completely cut off from reality is often too abrupt. This sudden transition can call into question all that has been previously learned and, indeed, it has often been likened to a second weaning. At seven the child is in a period of psychological change: he is intellectually capable of assimilating the basic mechanisms of understanding, but his responses are still predominantly emotional. The physical and aesthetic aspects of nursery school activities must therefore be carried over to primary education.

Chapter I

PRIMARY EDUCATION

THE REFORM OF EDUCATION AND THE NEW ORGANISATION OF PRIMARY EDUCATION: TRANSITION FROM THE IDEA OF "ORDRE" TO "CYCLE"

Although the raising of the school-leaving age has not affected the structure of primary education as such, it has raised the question of its function within the general system of education.

I. THE OLD STRUCTURE

Prior to the 1963 reform setting up the secondary education colleges (Collège d'enseignement secondaire - CES), primary education formed part of the vast complex known as enseignement du premier degré which took pupils to the end of compulsory schooling (age 14). This type of education, complete in itself, aimed to provide pupils with all the knowledge considered necessary or indispensable while remaining separate from secondary or technical schooling, though still forming part of a vertically structured education system.

A) Organisation

Thus, before 1963, elementary education covered eight years (age 6 to 14). It included primary education in the strict sense, covering a period of five years, plus terminal classes for pupils up to age 14.

Primary schools with more than four classes had an advanced class (age 11 to 12) and terminal classes (age 12 to 14). At the same time, other types of education were associated with the primary school: post-school agricultural courses and rural home economics courses (for girls) and, in some cases, a continuation course (cours complémentaire - CC which has become the Collège d'enseignement général - CEG) providing a short modern education in the primary school up to the end of the third form. Alongside the public education system, there were - and still are - private secular or denominational schools with the same educational structure.

B) Certificates Awarded on Successful Completion of Studies

The primary school certificate (Certificat d'études primaires - CEPE) was awarded on successful completion of studies, at age 14. The examination covered: dictation and analysis of text, arithmetic, a short essay, written replies to questions on history, geography and natural science, drawing or manual work, reading, mental arithmetic and singing.

On completing the terminal classes, pupils awarded a CFEP could sit an examination for admission to a public or private technical secondary school (CET) or enter an agricultural school, after consideration of their scholastic record.

Finally, some pupils by-passed the terminal classes after completing the second year intermediate class (at age 11) and took the examination either for admission to a CEG to receive a short modern education, with a view to preparing for the entrance examinations for the civil service or primary teacher training colleges, or for admission to a lycée to receive a long general or technical education (in a classical, modern or technical lycée).

II. THE NEW ORGANISATION OF PRIMARY EDUCATION

The 1959 decision to extend the period of compulsory schooling from eight to ten years (up to age 16), and the creation in 1963 of the first cycle of secondary schooling in the CES and in the reformed CEG, resulted in the gradual abolition of terminal classes. By 1975, 12 year olds will no longer continue in primary education but will automatically go on, after guidance, to the first cycle of secondary schooling. Thus, elementary education, now limited to a period of five years, is no longer an end in itself but merely the first part of a whole system of education. The purpose of the primary school is no longer simply to provide pupils with the essential minimum of intellectual training but to prepare them to enter and continue in one of the streams of secondary education. The structure is now horizontal rather than vertical.

Two important features are the identical lines of organisation of primary education throughout the country and the difficulties regarding the location of schools, which result from population movements.

A) Principles of Organisation

Primary education is provided for children aged 6 to 11 in boys', girls' or mixed schools, the most recent trend being towards the last. This level is divided into three sections:

- the preparatory class (cours préparatoire - CP), where 6 to 7 year olds learn to read;
- the elementary course (cours élémentaire - CE) covering two years (7 to 8 and 8 to 9), devoted to learning facts and simple ideas;
- the intermediate course (cours moyen - CM) also covering two years (9 to 10 and 10 to 11) during which time emphasis is given to the study of France and to work.

The timetable covers 30 hours per week, divided into six 6-hour days (two 3-hour sessions) and, allowing for holidays, there are some 180 school days per year. There are normally 30 to 40 pupils in a class. In order to facilitate group enrolments, pupils from nursery schools enter primary school in September of the year in which they reach the age of 6. This administrative measure gives rise to teaching problems in the preparatory class, where differences in the age and intellectual maturity of pupils are often too wide.

Promotion from one class to another is decided by the teacher on the basis of the pupil's behaviour and results over the year.

There is no longer an examination at the end of the second-year intermediate class. The pupil's school record is submitted to a guidance board with a view to his enrolment in one of the secondary school streams. However, during a transitional period up to about 1975, at which time the terminal classes should be entirely abolished, pupils in these classes will continue their studies in one of the following ways. They may:

- sit an examination for admission to a secondary technical school (CET) with a view to learning a trade;
- be admitted to an agricultural school (equivalent to the CET in rural areas) after consideration of their school record;
- sit an examination for admission to 4ème d'accueil (about age 13), an intermediate class following the two-year observation period set up under the 1959 reform (the two years immediately after primary education) to prepare pupils from terminal classes for one of the long modern courses provided by the lycées. The gap between these two types of schooling makes it necessary for such pupils to catch up;
- be admitted directly to:
  the first year of the terminal cycle (about age 14), the second half of a four-year course forming one of the four sections in the new first cycle of secondary schooling;
  the first year (about age 13) of the short modern section in the new cycle of secondary schooling;
  an industrial or commercial apprenticeship providing a combination of vocational training and part-time schooling;
  lastly, a post-school course in agriculture or rural home economics, provided the compulsory schooling requirement has been met.

B) Distribution of Primary Schools in France

Under the Act of 30th October, 1886, governing the organisation of primary education, primary schools were to be set up in every commune in France: there are currently some 38,000. Since the 1950's, the substantial movements of population throughout the country have given rise to the problem of concentrating and re-grouping schools with low attendance so as to improve the education provided.

Some regions, particularly the economically disadvantaged areas (the mountainous areas, Brittany and Central France), have been particularly badly hit by the rural exodus. Movements of population from city centres to the suburbs, though more recent, have also been sizeable.

As a result, the French authorities have had to close down some classes and schools. Closing down classes, however, is not quite the same thing as closing down schools. So far some 2,600 primary classes have been closed down annually; this usually means that a school with several classes is reduced to a single class, though a school is rarely shut down completely. When a school with several classes is reduced to a single class (concentration) the problem in rural areas is an educational one; where a school is shut down completely (re-grouping) the problem is how to get the pupils to school(1).

The first effect of French policy has been to increase the number of single-class schools, which is not without its educational drawbacks since one teacher has to deal with five classes (sometimes six if the school has a nursery section attached) at three different levels with very few pupils in each. Moreover, the teachers concerned are

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1) In 1968-69, school transport was being provided for one million students.

often assistants or supply teachers with inadequate professional training. When schools are shut down completely arrangements often have to be made for school transport, and where the distance is too great the possibility of boarding-in children may have to be envisaged, though this is a too costly and not very desirable solution for young children whose development needs are best met by the home.

Nevertheless, there are definite advantages in re-grouping schools. Provided the teacher is competent, the education can be more individualised, and grouping pupils of the same level is excellent for teaching purposes. Between 1966 and 1972, 8,000 classes with fewer than 16 pupils are scheduled to be closed down. This effort will have to be continued until a balance is reached between a minimum irreducible population (varying with the region) in areas of low population density, where schools will have to be maintained however small the attendance, and requirements in relation to the quality of the education provided.

Chapter II

THE FIRST CYCLE OF SECONDARY EDUCATION AND ITS EVOLUTION

This chapter concerns only the first four years of secondary education (the sixth to ninth years of study, or the sixth, fifth, fourth and third forms) and other types of education at this level.

I. STRUCTURE OF THE SYSTEM BEFORE THE RAISING OF THE SCHOOL-LEAVING AGE (1959)

Although under the Decree of 1st June 1937 the expression "secondary education" was replaced by "second degree education", it still remained "secondary education" in practice since it was not until 1959 that it became the second stage in a continuous educational process. In fact, the terminal classes prolonging primary schooling and the continuation courses (short general schooling) still came under primary school administration and used the same teaching methods, while the apprenticeship centres, trade schools, technical secondary schools and state vocational schools came under the Directorate of Technical Education and followed their own lines of development. This helped to preserve the narrow sense of second degree education, i.e. the schooling given in classical and modern lycées and collèges (1), providing a continuous seven-year course from the sixth form to the terminal class.

Some lycées and collèges also had primary classes (officially abolished since 1945 but kept on because of schooling requirements) and preparatory classes for the Grandes Ecoles. They also sometimes offered a short secondary cycle within what was an essentially long course of general education.

Diagram II shows the changes resulting from the reform of secondary education by comparing the structure existing before the 1959 Decree with that introduced by the 1959, 1963 and 1966 Decrees.

Before going into the detail of the reform, we shall describe the earlier system.

Secondary school entrance

Admission was by examination (at the end of the second intermediate class after five years of primary schooling) giving access to the lycées and classical and modern secondary schools to children of not less than eleven and not more than twelve years of age on 31st January of the year in question. Some children could be exempted from the examination in the light of their school record by decision of the Departmental Entrance Board, which came under the Primary School Inspectorate.

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1) The distinction between lycées and collèges (secondary schools) is purely administrative and based on differences of financing. Under the Act of 8th May, 1802, lycées are established by decree and financed by the state, while collèges are established and largely maintained by local authorities.

DIAGRAM II

Structure of secondary education, pre-1959 and today

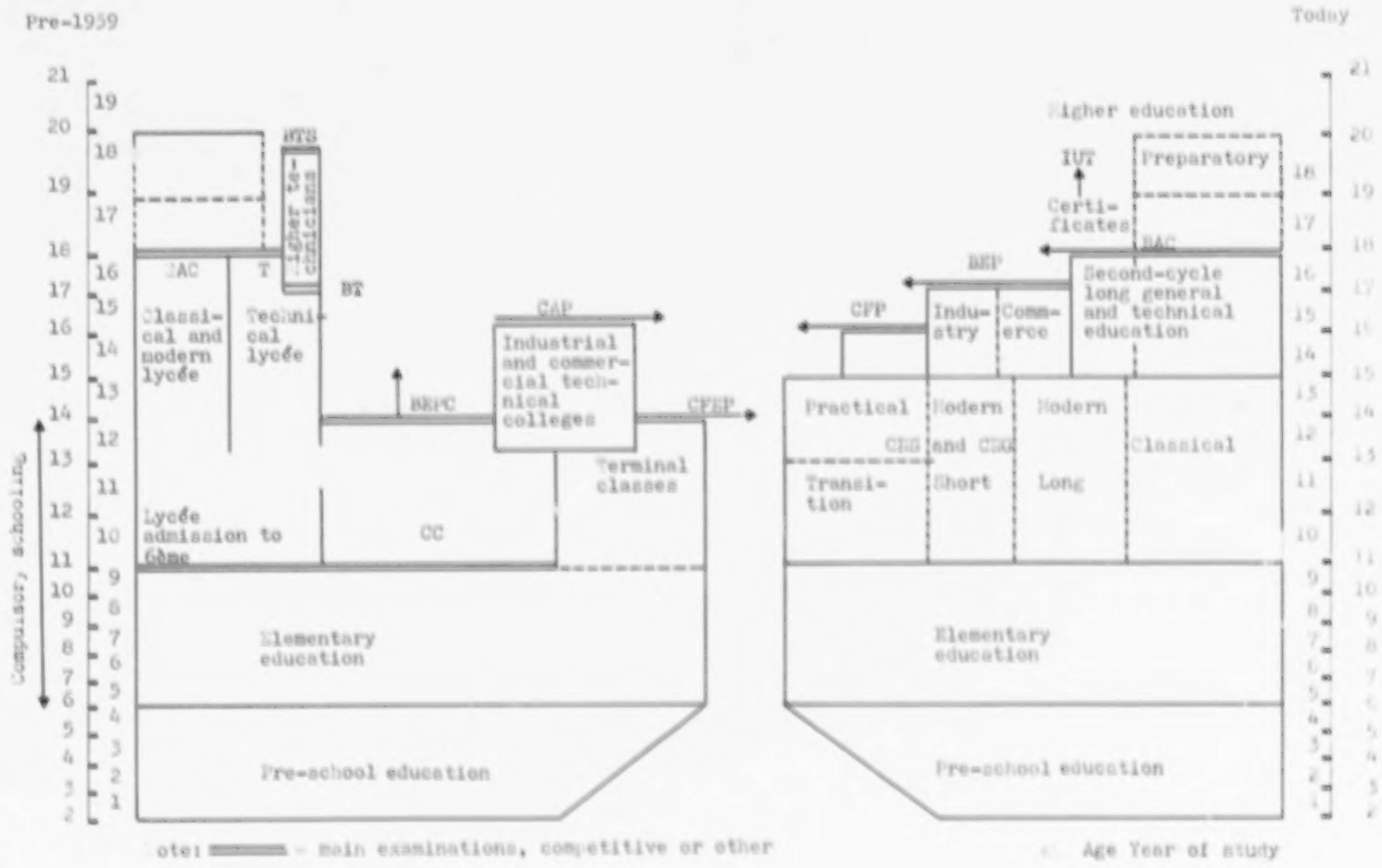
Pre-1959
Today
Compulsory schooling
BAC
T
BTS
Higher technicians
BT
Classical and modern lycée
Technical lycée
Lycée admission to 6ème
CC
BEPC
CAP
Industrial and commercial technical colleges
CFEP
Terminal classes
Elementary education
Pre-school education
Higher education
IUT
Certificates
Preparatory
BAC
BEP
CFP
Industry
Commerce
Second-cycle long general and technical education
Practical
Transition
Modern
CEG
and CEG
Short
Modern
Long
Classical
Elementary education
Pre-school education
Note: – main examinations, competitive or other
Age Year of study

DIAGRAM ABBREVIATIONS

BAC:	Baccalauréat
BEP:	Brevet d'Enseignement Professionnel (Trade Certificate)
BEPC:	Brevet d'Enseignement du Premier Cycle (First Cycle Certificate)
BT:	Brevet de Technicien (Technician's Certificate)
BTS:	Brevet de Technicien Supérieur (Higher Technician's Certificate)
CAP:	Certificat d'Aptitude Professionnelle (Trade Proficiency Certificate)
CC:	Cours Complémentaires (Continuation Courses)
CEG:	Collège d'Enseignement Général (Short Modern Secondary School)
CFEP:	Certificat de Fin d'Etudes Primaires (Primary School Certificate)
CFP:	Certificat de Formation Professionnelle (Trade Training Certificate)
CES:	Collège d'Enseignement Secondaire (Long Secondary School)
IUT:	Institut Universitaire de Technologie (University Institute of Technology)

A test was always required for children coming from private schools.

Thereafter, promotion from one class to the next depended on the decision of the principal taken on the advice of the class council, which could recommend:

- promotion to a higher class;
- an examination in September in the basic subjects prior to promotion;
- reorientation to short schooling or technical education; if parents refused this reorientation, the pupil had to sit an examination in September in all subjects to determine whether he could be promoted.

Children who did not go on to secondary school after the second intermediate class continued their education in the primary school terminal classes until they were 14 when they took the primary school certificate (CFEP), which marked the end of compulsory schooling, and then took up a craft or industrial or commercial apprenticeship. They could also sit an examination for admission to a continuation course with a view to a short general secondary schooling leading, after the BEPC(1)(modern language compulsory), to the elementary school teacher training colleges or to the vocational sections and a CAP(2) or a BEI, BEC(3), etc., according to the level of pupil and class. About 20 per cent of a generation opted for this possibility; the majority continued in terminal classes which provided a preparation for working life and a pre-apprenticeship training.

At the same time that the period of compulsory schooling was extended, the 1959 Decree called for the immediate establishment of a two-year observation cycle.

II. THE DECREE OF 6th JANUARY, 1959, AND THE INTRODUCTION OF A TWO-YEAR OBSERVATION CYCLE

The purpose of this measure was two-fold: to enable all children capable of profiting from education to do so and to replace guidance which is often fortuitous or prejudicial by guidance based on observation of the child's ability. In order to do this, pupils should follow virtually the same curricula for as long as possible so as to leave open as many choices as possible for their final training.

A) Definition and Organisation

Observation is organised within the teaching framework and lasts for a period of two years, covering the sixth and fifth forms (sixth and seventh years of schooling, age 11 to 13). It does not affect curricula or methods and constitutes an integral part of the school system. Pupils between 11 and 12 whose school record is satisfactory are admitted to the sixth form after completing the second intermediate year of primary schooling. Pupils from private schools and those in public education whose marks are below standard have to pass an entrance examination.

The first term of the sixth form (sixth year of schooling) is spent reviewing and aligning pupils' basic knowledge under a common programme. At the end of this term, a first indication is given to parents of the type of course best suited to their child. Parents are, however, free to choose between the classical (with Latin) and the modern streams. In some cases this may mean a change of school if the child is not already in a lycée. After this first stage, courses differ according to the option

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1) BEPC = Brevet d'Enseignement du premier cycle (First Cycle Certificate).

2) CAP = Certificat d'aptitude professionnelle (Trade Proficiency Certificate).

3) BEI, BEC = Brevet d'Enseignement industriel, commercial (Industrial, Commercial Certificate).

chosen, but the observation process continues; a further recommendation is made to parents at the end of the first year and at the end of the observation cycle (fifth form, seventh year of schooling), when pupils have a choice of five courses (see below).

B) Location of the Observation Cycle

The observation cycle covers the sixth and fifth forms of all lycées and CEG's and the terminal classes of primary school. These classes come under different departments of the Ministry but the main subjects of the curriculum are roughly the same so that pupils can be switched from one school to another. In addition to this necessary harmonization of curricula, the Ministry provides for greater geographical dispersion of secondary or technical schools (CEG's - former continuation courses, in particular) in order to cut down the distance between home and school and so avoid the need for further boarding schools, which are more expensive to run and psychologically less satisfactory. Schools of the CEG type will therefore not only be located in the main district towns but also in a number of rural centres. As far as possible, several types of secondary school will be located in the main town of a department or district.

C) The Machinery of Observation

The introduction of a period of systematic observation of pupils' progress called for the creation of the necessary machinery.

At class level, a guidance board consisting of all teachers taking the same class or the same group of classes and headed by a senior teacher appointed by the principal co-ordinates the various teachers' assessments of each pupil's abilities in order to build up an individual record and ensure liaison with parents.

At department level, a Departmental Board of Educational and Vocational Guidance is responsible for co-ordinating the guidance activities of the various units in the district and for giving advice on the preparation of the school map (see B above).

Finally, a ministerial guidance council headed by the Minister collates the information contained in the General Inspectorate reports and regularly issues the necessary general directives.

Guidance is also the cornerstone of the reform. Teachers must be trained for their new duties and to this end the Decree of 21st October, 1960, introduced a teaching certificate (CAP - CEG) for teachers in Collèges d'enseignement général.

D) Adaptation Classes

Adaptation classes ("classes d'accueil" or "d'adaptation") exist at the level of the fourth form (eighth year of schooling), i.e. at the end of the observation cycle, and can be extended to cover the third form. They are intended for those who have not had the advantage of a full observation cycle and especially for those who remain in the terminal classes of the primary school. Their purpose is to bring pupils up to the level of the long or short general or technical schooling best suited to them through appropriate curricula and time-tables. Admission to these classes is by examination. They provide a rapid means of "catching up" by extending guidance beyond the observation cycle.

E) Beyond the Observation Cycle: Training

At the end of the period of observation, a recommendation is made to parents who then have two choices:

- either to follow the advice of the guidance board, in which case the child is automatically admitted to the course indicated;
- or to choose another course, in which case the child will have to pass a test.

There are then five possibilities:

i) Terminal schooling

This completes compulsory schooling for those who do not take a long or short general or vocational course. As from 1967, terminal schooling covers three years after the period of observation (up to the tenth year of schooling) and provides both additional general training and practical preparation for jobs in agriculture, commerce, crafts or industry. At age 16 a leaving certificate is awarded without examination, mentioning the occupation chosen(1). The nature of pre-vocational training provided varies according to the locality.

In farming districts, terminal schooling will usually consist of farm education for boys and rural domestic training for girls. Emphasis will be given in this very practical type of training to the development and modernisation of agriculture.

In other rural areas, terminal schooling will be associated with craft training, as was the case under the old system.

In the towns, terminal schooling will be associated with the craft needs of urban areas, the training of adaptable specialised (unskilled) workers and commercial training for girls. Training of this kind will be given in the terminal classes of the primary schools and no new schools are planned; however, in urban areas or in larger rural centres, terminal training may be provided in the CEG's.

ii) Short vocational education

This provides a skilled worker course in the technical secondary schools (CET's) which replace the former apprenticeship centres. These courses are intended for pupils of age 14 who have completed the observation cycle. Those under 14 at the end of the cycle must do a preparatory year. CET courses cover a period of three years (from 14 to 17) and, in addition to more general education, they offer a wide variety of academic and practical training in many different subjects leading to the trade proficiency certificate (CAP).

iii) Long technical education

This is given in the technical lycées. To facilitate access to this type of education, specialised sections at fourth form level provide a bridge for pupils coming from general education(2). These courses come after the observation cycle and provide a four-year training for technical assistants and a five-year training for technicians. The course for technical assistants, who are skilled staff and can aspire to lower-level supervisory posts, leads to the technical assistant certificate after examination and a period of practical training in industry.

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1) This measure was to come into force as from 1967, but will not be applied in view of the changes made since. Up to 1966, the old scheme still applied: pupils over 14 were still subject to the post-school apprenticeship and training legislation. On completion of primary schooling they were awarded the primary school certificate after examination at 14 years of age.

2) Before the reform, long technical education could begin at sixth form level as the technical lycées often included forms six and five. Although the sixth form had no special curriculum, the fifth was often a kind of preparatory class for technical education.

The technician course prepares for future middle management posts; it leads to the technician's certificate which, for some subjects, is equivalent to Part I of the baccalauréat.

iv) Short general schooling

This is given in the CEG's and covers the observation cycle and a further three years (one year more than under the old system)(1). Pupils are prepared for non-technical middle-level supervisory jobs in the services sector and for the primary school teacher training colleges. It leads to a general education certificate (BEG).

v) Long general schooling

This is given in the classical, modern and technical lycées. A step forward has been taken in the new structure in favour of modern languages, economics and social sciences, and greater specialisation at second-cycle level. It includes, in addition to the two years of the observation period described above:

- two years of lower secondary education (fourth and third forms, eighth and ninth years of schooling) comprising three sections: Classical A: Greek, Latin, one modern language; Classical B: Latin, two modern languages; Modern M: more extensive study of French and two modern languages;
- two years of upper secondary education (second and first forms, tenth and eleventh years of schooling), which is more diversified and comprises seven sections:

Classical A: Greek, Latin, one modern language; with a mathematics and physics bias: A'.

Classical B: Latin, two modern languages and social sciences.

Classical C: Latin, science and one modern language.

Modern M: Science, one modern language and industrial technology.

Modern M': experimental science, physics and biology, and more extensive study of one modern language.

Technical T: science, one modern language and fundamental industrial technology.

Technical T': economics and two modern languages.

- one terminal year (twelfth year of schooling) with five sections which all include an introduction to philosophy.

Philosophy
Experimental science
Mathematics
Mathematics and technology
Economics and Social Sciences.

All these courses lead to the baccalauréat, a diploma certified by the Faculties of Science and the Faculties of Arts and Social Sciences.

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(1) A similar arrangement already existed in certain continuation courses in the form of a special third form preparing pupils for civil service examinations and teacher training colleges.

F) Shortcomings

The Decree of 1959 fairly soon revealed itself as only a half measure. For guidance to be effective, the whole structure of secondary education needed to be overhauled.

The shortcomings of an observation cycle restricted to two years without any reorganisation of secondary education as a whole very soon became apparent. Organised as it was, it could not achieve the teaching, social and pre-training objectives assigned to it:

i) For teaching, an observation cycle of two years is too short. In the case of slow developers, for instance, or emotional disturbance connected with repeated failure, real abilities may appear only after 13 years of age; such abilities nevertheless exist and allowance must be made for them. The cycle therefore needs to be extended and, as we shall see, it has in fact been lengthened from two to four years. In addition, the guidance machinery described above is illusory if the guidance given implies a change of school. All first-cycle classes should therefore be grouped together in a single school and schools of this kind should be distributed as widely as possible throughout the country so that as far as possible all families and children have the same educational opportunities. Furthermore, by locating the observation group in the same school it may be possible to ensure the necessary co-operation between teachers and the reshaping of curricula in line with the needs of guidance.

ii) From the social point of view, the 1959 reform does not make sufficient allowance for the qualitative and structural consequences of the growth of secondary education. Thinking in this field should be guided by a fundamental notion. Mass secondary education cannot fail to be different from secondary education reserved for the few. Secondary education must therefore be reconsidered as a whole, the various types of classical, modern and technical secondary education must be freed from the hierarchy of prestige and the value of each determined in the light of pupils' real abilities and their subsequent vocational training for entry into working life. If secondary education is to cater for the whole of a particular age group the structure must be changed from a vertical to a horizontal one.

iii) It is here that the relationship between training and employment comes into play. It is socially reprehensible and economically costly to train a large number of individuals in the abstract without reference to the concrete requirements of the jobs they will do. The economic and social growth of a developing society entails a more solid and more thorough general secondary schooling: this is the purpose of the present first cycle. Vocational training comes at the end of this cycle: this calls for a complete reorganisation of the structure and teaching methods of technical education, whose incoherence retards the country's overall development.

III. REORGANISATION OF SECONDARY EDUCATION (Decrees of 14th June, 1962, 3rd August, 1963, and 12th October, 1964)

After two years' experience, the deficiencies described above led the French authorities to extend the scope of the 1959 enactment:

To make equality of opportunity more real, the value of a type of education must be judged by the rate of success and not by the rate of failure. To do this, the different abilities of the younger generation must be thoroughly explored and developed through the establishment of first cycle secondary schools using different teaching methods under a unified curriculum. This involves a new concept of technical education, which becomes the final stage of a wider general schooling.

C) Organization of the First Cycle of Secondary Education

i) From 1963, the main change in the organization of the first cycle was the extension of the observation and guidance period from the sixth to the ninth years of schooling (sixth to third forms). All pupils (at the end of the second year of the intermediate course of primary school) go on to the first cycle of secondary education without examination and follow a kind of "common stream" for four years.

This has three aims:

- to broaden access to secondary education and widen the range of social groups traditionally profiting from it (e.g. farmers). The idea is to allow for late developers by postponing to age 15 the guidance previously given at the end of primary school, and making the necessary changes in the pattern of schooling and the teaching methods employed;
- to postpone entry into vocational training to the end of the first cycle after a broader general education;
- to prepare for the main major guidance decision which now takes place at the age of 14. Although first-cycle schooling is given in parallel sections, the basic subjects are virtually the same so as to allow for reorientation during the cycle, but the teaching methods are varied so as to bring out latent ability with a view to steering pupils towards an occupation, a technical training college or a more academic type of classical, modern or technical schooling.

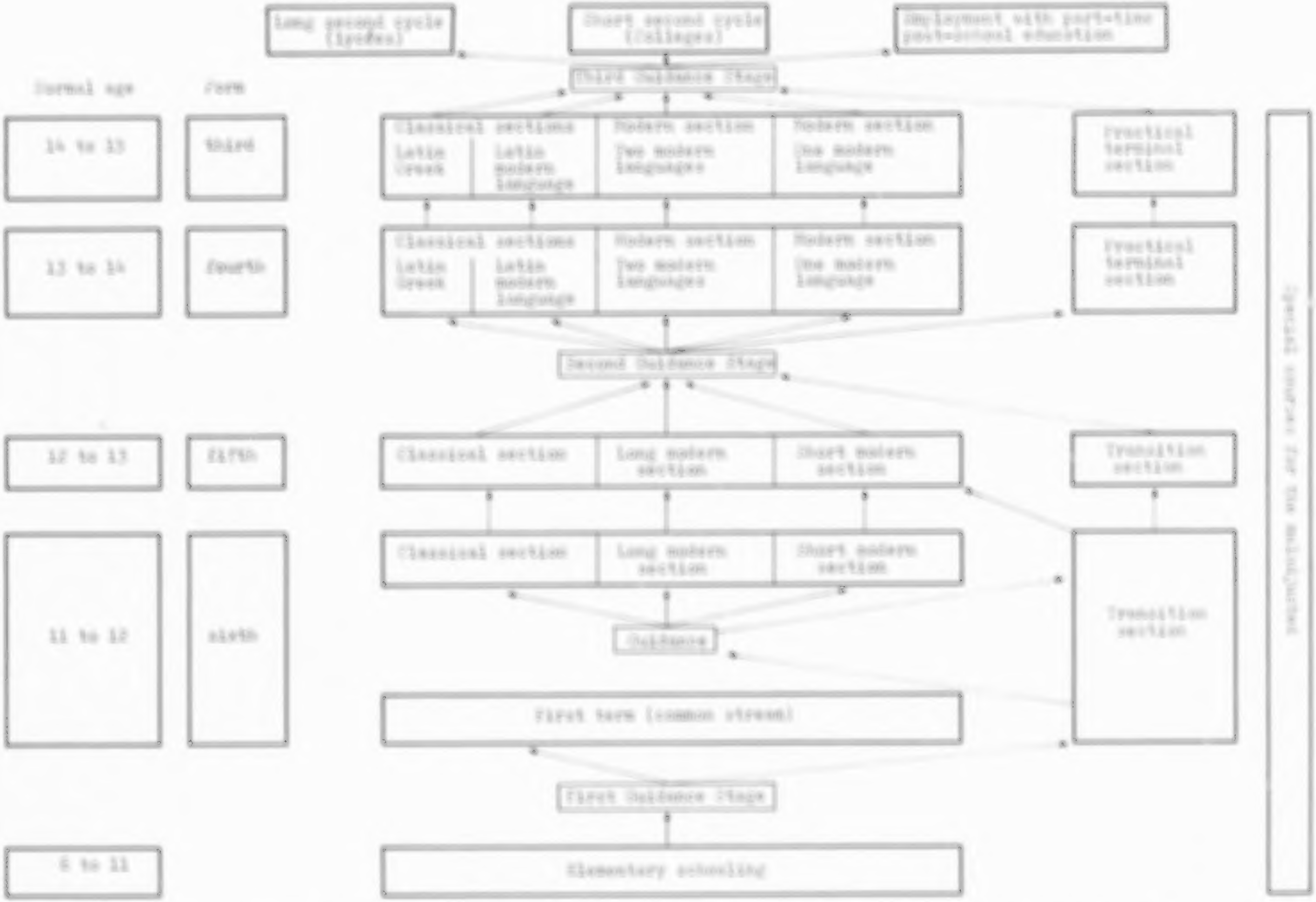
ii) Continuous guidance of pupils is the keynote throughout the first cycle. Guidance may be given at the end of each term, or at a number of other main stages, as shown in Diagram III:

- the first stage comes at the end of primary school when pupils who reach a satisfactory level go into a common stream and have the choice three months later between a classical course or one of the two modern courses (M I long and M II short). Those who have not yet reached this level go into a transition section.
- A secondary stage comes at the end of the first two-year period (fifth form, seventh year of schooling). There are then six possible paths: two classical sections, two modern sections, a transition section and a practical section.
- The third and last stage comes at the end of the first cycle (third form, ninth year of schooling). Pupils are then advised to follow one of four possibilities: the long second cycle (classical, modern or technical); the short technical course; post-school education (apprenticeship for example). The fourth possibility is to take up work immediately if they have reached school-leaving age.

These possibilities are suggested by the guidance board headed by the senior teacher in the pupil's section. If the parents choose a different type of education, the child will have to pass an entrance examination (this condition applies at all stages of guidance).

DIAGRAM III

The first cycle and the guidance boards


Long second cycle (lycées)
Short second cycle (Colleges)
Employment with part-time post-school education
Third Guidance Stage
Normal age
Form
14 to 15
third
13 to 14
fourth
12 to 13
fifth
11 to 12
sixth
6 to 11
Classical sections
Latin Greek
Latin modern language
Modern section
Two modern languages
Modern section
One modern language
Practical terminal section
Second Guidance Stage
Classical section
Long modern section
Short modern section
Transition section
Guidance
First term (common stream)
First Guidance Stage
Elementary schooling
Special courses for the maladjusted

Source: "Le premier cycle: horaires, programmes, instructions" (The first cycle: timetables, curricula, instructions), Ministry of Education.

iii) First-cycle schooling is made up of a number of parallel sections offering opportunities for switching pupils from one stream to another. However, this schooling is still, and will be for some time to come, dispensed in different establishments:

- classical and modern lycées for the classical and modern sections (long modern);
- collèges d'enseignement général (CEG), which include a transition and practical section, a short modern section (M II), a long modern section (M I) and possibly a classical section;
- collèges d'enseignement secondaire (CES) housing all the different sections in the same establishment. This type of fully comprehensive school is the reform's real innovation since pupils are offered the various possibilities under the same terms of convenience for all families: there is no need to change schools and complete permeation between the various sections makes for greater co-operation between teachers with different kinds of training. As the school map shows, these schools are to be widely dispersed.
  But in the less urbanised areas, the CEG will remain the preferred type of school and, according to the Fifth Plan forecasts, will still be enrolling 20 per cent of the age group in 1972-73.

b) Characteristics of the Different Sections

The four sections provided group together pupils on the basis of their aptitudes as revealed during primary education:

- the classical section has the study of Latin and possibly Greek or a second modern language as from the fourth form;
- the distinguishing characteristic of the modern section I (long type) which offers an intensive course in French and two modern languages (the second language in the fourth form) is that it also includes a course in technology.

These two sections are of the lycée-type staffed by fully qualified teachers having five years of study after the baccalauréat:

- modern section II (short type) offers only one modern language. This section of the CEG is staffed by specialist teachers (most of whom were formerly primary school teachers) trained for three years after the baccalauréat.
- the transition section (two years) followed by a terminal practical section (two years) offers courses of a particularly practical type subsequently leading to vocational training. The practical terminal section, in fact, offers essentially pre-vocational training.

Reference is made below to the recent development of a core curriculum of subjects in these establishments, the introduction of which means reserving the lycées for the second cycle of secondary education and, before the end of the Sixth Plan (1975), phasing out the new CEG's which do not have "lycée-type" sections, particularly for classical education, or are unable to offer the wide range of options (e.g. foreign languages) available in the CES's. At the beginning of the 1969 school year, the latter accounted for 47.4 per cent of public enrolments in the first cycle; the other pupils were distributed as follows: 28.5 per cent in CEG's and 24.1 per cent in the first cycle of the lycées(1).

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1) Source: Note d'Information No.75 of 21st November, 1969. Service central des statistiques et de la conjoncture (Ministry of Education).

C) Qualifications Obtained

At the end of the first cycle, pupils are directed to the different types of training. Those for whom the first cycle is the end of formal education are given a school-leaving certificate at the age of 16. This replaces, in a more flexible form, the old primary school certificate, which will be gradually abolished. With this certificate, they can take up an apprenticeship, follow a trade course leading to the CAP[1] or a post-school course leading to a certificate in agriculture or rural home economics, or, lastly, they can take a one-year accelerated training course (see below).

D) Extension of Compulsory Schooling and Vocational Training at First-Cycle Level

As the intake capacity of the new CES will not be fully adequate until 1972, the Ministerial Circular of 8th May, 1967, set up "vocational education sections" (SEP) in order to meet the needs arising from the extension of compulsory schooling. Thus, as from October 1967, according to the Education Act, all children who have reached 14 by 1st January must continue their schooling until 16. As most children already stay at school beyond the minimum leaving age, this measure affects only 25 per cent of the age-group, i.e. roughly 200,000 youngsters. In view of the expected increase in intake capacity of the CES, of practical or reception classes in the CES and of post-school courses, the Circular of 8th May, 1967, finally affects in all about 54,000 young people.

With these people in mind the Ordinance of 27th September, 1967, postponed until 1972 the ban on contracts of apprenticeship for those under 16 years of age. Thus, in-firm training will be legal for 14 to 16 year olds until 1971-72; from then, an authorisation will be limited to children who were over 15 at the beginning of their last year of compulsory education.

Therefore, so as not to reduce employment at 14 too drastically, or to delay 16 year olds in their choice of a career, the Circular of 8th May, 1967, authorises children aged 14 to enter a vocational training section (SEP). This transitional measure is valid from 1967 to 1972. These SEP's offer a new type of training (sandwich course) using both theoretical instruction and in-firm apprenticeship to complement each other.

a) Organisation of the SEP's

These young people, still below school-leaving age, follow a new type of apprenticeship under a training contract which no longer binds them to the firm.

The SEP's are intended for youngsters of 14 leaving the primary school terminal classes, where these still exist, (end of fifth form) and for those who, in the absence of a new second-cycle school, could not find a place in an old type of three-year CET.

These vocational education sections do not replace apprenticeship but precede it, providing a sort of pre-training combining part-time schooling with practical in-firm training.

The teaching methods used in the SEP are similar to those employed in the first-cycle practical classes and are based on concrete activities with a view to:

- subsequent apprenticeship without a contract;
- direct employment after compulsory schooling;
- enrolment in a vocational training institution leading either to a vocational education certificate (two-year BEP) or a trade certificate (one-year CFP).

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[1] CAP - Trade Proficiency Certificate (Certificat d'Aptitude Professionnelle).

These sections do not operate on a full-time basis but in co-operation with firms associated with the section under a standard education agreement (annexed to the instructions) valid for one school year and renewed by tacit consent. This may be a nationwide agreement covering a whole branch of industry or, in the case of trade guilds, a national training scheme.

The SEP's were set up on the initiative of state schools (CES, CEG, CET), private establishments and vocational courses (post-school agricultural courses have all been changed into SEP's). These courses supplement basic general knowledge in a way similar to the practical terminal classes, offering vocational training which is a good grounding for subsequent training and orientation. These sections offer a wide variety of subjects within one dominant vocation in the light of local possibilities.

They are also responsible for giving pupils the necessary information for them later to choose a trade with the help of educational and vocational guidance officers.

This type of training is based on a school/firm relationship. School work takes up twelve hours a week in three-hour sessions, and a practical in-firm training 28 hours a week.

The main lines of the course are as follows:

- expression training: written, oral and graphical, elementary mathematical or logical operations;
- applied science: technology and drawing;
- information on working life;
- emphasis on the practical use of knowledge acquired, especially in the firm.

The choice of the firm is therefore important if the youngster is to obtain a good all-round education. The work in the firm must always be arranged with an eye to its training value. A record of progress should be kept. This will serve as a link between the firm, the school and the family, and will contain a detailed description of the work done in the firm and at school.

SEP courses can be given in a public or private secondary school or provided by an institution running vocational training courses; in the latter, the trainees retain their student status and enjoy the material assistance provided for first-cycle schooling. They do not receive any wages.

ii) Success of the SEP's

In the first year (1967-68) there were already 1,617 sections - 43 per cent of which were converted post-school agricultural courses - teaching 40,000 pupils. SEP's were on average attended by 4.9 per cent of the total number of pupils in that generation. This rather low figure was due to the poor rate of attendance in the Paris academic region. The SEP's in the Poitiers and Limoges academic regions were the most successful.

In 1968-69, 83,800 pupils were taught in the SEP's (49,500 first-year and 34,300 second-year pupils). The industrial sections were in the lead at that time, followed by the agricultural sections. The most active SEP's were those operating in a CET.

Despite the criticisms directed at SEP's as being merely a palliative to the problem, they have often given satisfaction. It would even seem that this type of education may sometimes give better results than first-cycle practical terminal classes. Pupils following these two types of education are similar. Good pre-vocational training is,

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in fact, much more difficult to organise within first-cycle secondary education in schools than in the school/firm set-up of the SEP's. It would therefore seem likely that in future the thinking that brought the SEP's into being will be extended to reorganising the practical terminal courses.

After their training in a SEP, youngsters can either take up an apprenticeship, or follow a one-year vocational training course.

Chapter III

EDUCATION FOR HANDICAPPED CHILDREN

Parallel with the education described here, special education is available for handicapped children who cannot attend ordinary schools.

This category covers a wide range of children, i.e., mental defectives, motor defectives (cerebral or otherwise), sensory defectives, children and adolescents with disturbed character and behaviour, children requiring care and those with intermediate physical handicaps.

In the case of mental defectives, only slightly defective children and certain intermediate defectives are accepted by the state education system. Children who require care of a predominantly medical nature are the responsibility of the Ministry of Health. Similarly, the Ministry of Education is not responsible for children with more than slight sensory defects. Delinquents are placed in supervised education institutes by the Ministry of Justice.

The education of handicapped children. identical with ordinary education but provided under special standards and conditions, is very backward in France, owing to the inadequate resources allocated to it.

Under the Fifth Plan and in the preparation of the Sixth Plan, a number of principles were laid down to shape the future course of this type of education. The basic elements in the improvement and development of special education are outlined below.

A) The Development of Preventive Action

The preventive mechanism has been gradually set up since 1965 and the Circular of 9th February, 1970, specified the arrangements for its general adoption under the Sixth and Seventh Plans.

Preventive action is the responsibility of psychological education teams. These are teams consisting of one psychologist and one or more therapists. Each team is responsible for one or more groups of schools, co-operates in the continuous observation of the children concerned and seeks to re-adapt them by giving the children advice or therapy or by counselling the parents and teachers.

If preventive action is to become general, one psychological education team must be available for every thousand children. It may appear difficult to provide so many teams but this step is vital to the strategic role they have been assigned, i.e. the systematic detection of handicapped children.

B) The Detection of Handicapped Children

The psychological education teams are aided in their task of detecting handicapped children by the teachers, the school medical officer and the school welfare officer.

Detection procedure is as follows: when one of the above specialists notices that a child is in difficulty or showing signs of physical or mental disturbance he reports the matter to his colleagues and notifies the child's parents.

A file is then prepared and sent by the head teacher to the Schools Medical Board of the primary school inspection district(1) or to the Secondary Schools Medical Board of the department(2).

The responsible board studies the record, makes its proposals and advises and helps the family with a view to re-education or placement. If the Primary Schools Board cannot deal with the case it sends the file to the Departmental Schools Medical Board.

When a normally intelligent child seems likely to suffer from maladjustment, three kinds of action can be taken:

- the child may be kept at an ordinary school while being given the specific help he needs;
- the child may be given temporary re-adaptation treatment designed to enable him to be rapidly re-integrated into the normal school system;
- the child who appears to have a consolidated, durable handicap may receive special schooling in an appropriate institution.

In the first case, the child is kept in his class but receives the appropriate aid in educational psychology either in school or in a medical centre (psychological re-education, psycho-motor or sensory re-education, re-education in speech, reading or writing). These centres may be public or private and operate in conjunction with the schools. They have a team of specialists (doctors, educational psychologists, therapists, social workers, psycho-therapists) headed by both an educational and a medical director.

In the second case the child needs to be placed for a time in a class under conditions where everything is done to enable his handicap to be easily remedied so that he can be returned as soon as possible to the normal education system. This action must be taken at the earliest possible moment (preferably at the level of nursery school) to enable him to combine re-adaptation with a normal schooling. The classes he attends are attached to pre-elementary, elementary and junior secondary schools. They cater, over periods ranging from six to 30 months, either for children suffering from various unconsolidated disturbances or handicaps or for children who have failed in comprehensive or selective schooling for reasons that cannot be attributed to any specific disorder. They are grouped under the heading "borderline cases and specific disorders".

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1) The board consists of: the inspector of primary schools, the head teachers or specialised teachers, the school medical officer, the special medical officer and the educational psychologist or any other competent person.

2) This board consists of: the inspector of the academic region, the special inspector of primary schools, a number of special teachers, the school medical officer, the special medical officer, the welfare officer, the school careers and vocational guidance officer and the school psychologist.

These adaptation classes or sections are of various types:

- classes designed to foster the growth and development of the personality, attached to certain nursery or elementary schools (preparatory classes). The child is then directed either into an ordinary class or into a special class if the disturbance has not yet been corrected;
- classes for physical re-adaptation. These are open-air institutions for children of ill or fragile health and include lycées in regions with a good climate and classes in sanatoria, etc.

Where the handicap observed is too great,the appropriate schools medical board decides on the advice to be given to the family concerned with a view to placing the child in a specialised establishment where he will be given an adequate vocational training to ensure his future employment.

C) The Departmental Card-index

The methodical system of detection described above is also designed to enable a comprehensive card-index system to be established and kept up to date, showing the exact number of handicapped children and their breakdown by type of handicap. No survey of this kind has ever been made before and this accounts for discrepancies between the estimates compiled for each sucessive Plan(1). A more elaborate method was used in preparing the Fifth Plan, the number of children of school age being evaluated on the basis of statistical samples. The results obtained were applied to the total number of young people between 5 and 19 and compared with the percentage for various foreign countries. To remedy the deficiency the Circular of 29th September, 1965, provided for the establishment of a departmental card-index under the responsibility of the specialised departmental inspectors.

The survey covers all children who are of school age or attend nursery schools or infant classes and are in some way handicapped. When it has become operational this filing system will be essential in enabling the number of children requiring special education to be more effectively forecast and better organised.

D) Improvements in Reception Facilities in Special Classes or Establishments

The main principles in the education of handicapped children are:

- to ensure that as far as possible they are not boarders (in order to preserve contact with the family environment) and that the classes they attend are attached to ordinary schools (to avoid segregation);
- to seek re-adjustment in a form of education as close as possible to ordinary schooling but suitably adapted and including all appropriate medical supervision;
- to provide education free in establishments within the state system.

Children are placed in:

- special classes attached to all ordinary primary schools for all types of handicapped children, while children suffering from an identical handicap but geographically dispersed may be grouped together in a boarding school;
- special day schools which are either independent or attached to Collèges d'enseignement secondaire, for the post-elementary schooling of intermediate mental defectives and sensory defectives;

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1) Cf. Book III, Part One, Chapter III.

- national vocational training schools for mental defectives, motor defectives and adolescents presenting disturbances in their behaviour and conduct:
- state secondary schools with boarding facilities.

Long and short technical education for handicapped children has not yet become general as such. The creation of special Collèges d'enseignement technique (CET) is planned in urban centres with 150 to 200,000 inhabitants.

Table 81 shows the trend in special public and private education from 1958-59 to 1968-69.

TABLF 81

Trend of special public and private education from 1958-59 to 1968-69

Year	State education	Private education	Total
1958-59	56,383	5,438	61,821
1959-60	67,546	8,695	76,241
1960-61	72,867	8,333	81,200
1961-62	76,486	8,579	85,065
1962-63	83,984	9,438	93,422
1963-64	89,503	10,592	100,095
1964-65	100,806	11,525	112,331
1965-66	111,099	14,718	125,817
1966-67	124,667	16,012	140,679
1967-68	143,289	16,917	160,206
1968-69	160,819(1)	21,904	182,743

Source: National Education Tables, 1958, 1968, Ministry of Education: Service central des statistiques et de la conjoncture.

1) To this figure should be added the number of pupils in secondary schools, i.e. 20,600 in 1968-69, who had not previously been shown as benefiting from special education.

E) Personnel

i) Teaching personnel

Teachers in the specialised education system are recruited, on the basis of their qualifications, from primary school teachers who have had two years' experience and hold the teacher training certificate and from teachers in secondary schools and technical schools with the necessary qualifications for teaching at this level.

On recruitment, the teaching personnel receive the following training:

- class teachers, teacher-educators supervising out-of-school activities and teacher-therapists attend a two-year course.
  The first year is largely theoretical and the second year largely practical. This training leads to the CAEI or Certificat d'aptitude à l'enseignement des inadaptés (Certificate of Proficiency in the Education of Handicapped Children) and, in

addition to a core curriculum, includes a range of eight special subjects relating to each category of child;
- technical teachers of practical subjects attend a three-and-a-half month course at the Centre National de Beaumont-sur-Oise for which a certificate is awarded;
- teachers in secondary schools take courses varying from two weeks (psysically handicapped children) to one year (behavioural disturbances, for which a certificate is awarded;
- head teachers (recruited from specialised teachers with eight years' experience including five with handicapped children) attend a year's course (at a national centre) at the end of which they take a national examination or else compete for a limited number of places, according to the type of school.

The present capacity of the training institutes for the above personnel is as follows:

1) Twenty-seven regional centres for the training of special teachers, preparing 1,800 primary school teachers and therapists for the CAEI each year.
2) Two national centres for the training of special teachers (Beaumont-sur-Oise and Suresnes) able to accommodate about 500 students each and provide training for a wide variety of staff because of the varying length of training periods i.e.:
   - three hundred primary school teachers and therapists holding the CAEI (one-year course);
   - a hundred head teachers taking a one-year course;
   - fifteen secondary teachers taking a one-year course;
   - a hundred-and-fifty technical teaching staff taking three-month courses.
3) Four institutes of psychology able to train 150 school psychologists.

In addition, the national centres organise seminars and briefing sessions.

In the ten years from 1958-59 to 1967-68, the number of special primary teachers trained amounted to 6,913, an accelerated training course being introduced as from 1963-64.

ii) Non-teaching staff

The Ministry of Education trains the following personnel at universities:

- school psychologists (experienced primary school teachers receiving a two-year additional training);
- speech therapists (a three-year course in theory and practice);
- psycho-motor therapists.

The following personnel are trained in private institutions:

- specialised educators (social workers responsible for out-of-school activities, i.e. workshop sessions, various types of treatment, general supervision, observation and instruction for handicapped adolescents);
  About 30 schools (some of which, e.g. Lille and Montpellier, have become teaching and research units in the new universities) provide this training which consists of a three-year course leading to a state diploma instituted under a government decree of 1967. The first group of specialised therapists holding this diploma completed their course in 1970;

- instructor-educators (out-of-school supervision of categories of handicapped children for which an intensive theoretical training is not required).

Under a Decree of May, 1970, these instructor-educators are recruited from holders of the Brevet d'études professionnelles (BEP)(1) for para-medical and welfare work and take a two-year specialised course provided at present by about 20 schools.

Another method by which candidates may be recruited is through a three-year training course which is open, under the government upgrading schemes, to persons who are not holders of the BEP.

It is important that a sufficient number of teaching and non-teaching personnel should be recruited and given the type of training suited to their particular tasks. Arrangements will be made under the Sixth Plan for a substantial increase in the capacity of training institutes. In particular(2):

- it would be most desirable to double the number of existing places (i.e. from 2,000 to 4,000) in annexed regional centres or training schools for students intending to become class teachers in primary schools preparing for the CAFI and to set up eight new centres in training schools in the main towns in the academic regions;
- new regional centres would also have to be established for the training of:

educators:	2 centres with 250 places;
therapists:	1 centre with 400 places;
teachers for secondary schools:	1 centre with 200 places;
teachers in technical schools:	1 centre with 300 places;

- the number of psychology institutes training school psychologists (average capacity, 40 places) would have to be increased from four to twelve and the two national centres which already exist would have to be specialised in the "training of trainers", the training of special inspectors in primary schools and the organisation of seminars and refresher courses.

F) The Expansion of Research

A research centre for specialised education and educational adaptation (CRESAS) was created in February, 1969, for the purpose of studying all types of handicaps among children, whether biological, psychological, sociological or educational. In the preliminary stage, research work was directed towards the early detection and prevention of disturbances likely to impede children in mastering reading, writing and arithmetic, i.e. mental inadequacy, difficulty in the use of language, psycho-motor disturbances and character defects.

In the first instance this research work will be carried out in nursery schools and in two closely co-ordinated directions:

- use of observation techniques in school groups in Paris and the Paris region;
- fundamental research work in conjunction with the Centre National de la Recherche Scientifique (National Centre for Scientific Research) (CNRS) on methods of acquiring knowledge in nursery and primary schools.

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1) This course is taken at Collèges d'enseignement technique.

2) Reports on the Sixth Plan option for the "handicapped-maladjusted" inter-group.

G) Problems Outstanding

Below is a list of some of the major problems which require rapid solution:

- a more precise definition of the role of the schools' medical centres, with a view to their reorganisation;
- amendments to the present rules and regulations for personnel as these are often too rigid in view of the strain of this type of work;
- a longer period of training for teachers (certain CAEI options) and a more detailed training for school psychologists;
- an increase in sports facilities;
- the introduction of arrangements to make special education really free; the cost still has to be borne by the families concerned except when they are entirely without resources.

CONCLUSION

In spite of the measures taken, this newly-organised compulsory education system has not yet become a unified whole. The traditional separations are still there and become obvious whenever the child passes from one stage of compulsory education to another:

- transition from nursery to primary school;
- transition from primary to first-cycle secondary education.

Such discontinuity affects the pupil in every way: intellectually, emotionally and psychologically, particularly since the teachers themselves are an integral part of this discontinuity and, through the teaching methods and standards they apply, help to perpetuate a selective system in an education system where it should not be applied.

Within the first cycle of secondary education, unity is still far from being achieved despite the efforts to introduce a sort of core curriculum (see below).

As long as this period of extended compulsory education continues to be compartmentalised, the reforms applied in other levels of education will have difficulty in producing the desired effect.

Certain measures concerning teachers and teaching methods would help to speed up the unification process.

Title 2

NON-COMPULSORY EDUCATION

The following are included under this title:

- the second cycle of general secondary education and long and short technical education;
- university and non-university higher education;
- education, at various levels, which is not organised by the Ministry of Education;
- continuing education.

The structures of these four types of education are set out below.

Chapter I

THE SECOND CYCLE OF SECONDARY EDUCATION

The second cycle covers the formative types of education and lasts for two or three years according to the case, beginning with the ninth year of schooling. Under the new system its aim is twofold:

- to retain the formative character of education based first on general culture;
- to give a positive content to guidance by offering pupils a variety of courses corresponding to their different abilities and to the main types of education.

Upper secondary education includes a long and a short course. The long course may have a general orientation (postponing specialisation until after the baccalauréat) or a technical orientation (technician's baccalauréat)(1). It lasts for three years after the third form.

At the end of the transition period described below, the short second cycle offers a two-year vocational training course for workers and skilled employees as well as a one-year vocational training course.

I. THE LONG UPPER CYCLE

The long type of education covers three years in lycées offering classical, modern and technical education. These are organised independently because of different facilities, but enjoy the same resources and the same importance as other lycées(2).

A) Organisation of Long Education Prior to 1959

There were at that time two quite distinct streams:

- long classical and modern education;
- technical education.

1. Long classical and modern education

After four years in first-cycle secondary education leading to the BEPC (Brevet d'études de premier cycle - certificate of first-cycle secondary education - a non-compulsory examination) there was another cycle of three years which led to the baccalauréat. The education differed at this level because of the inclusion of Latin in the curriculum.

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1) The diplomas are of equivalent levels but differ in the facility of access they afford to higher education.

2) The name "lycée technique" (technical lycée) in 1959 replaced that of "national vocational school".

Long classical schooling comprised four sections:

A: Latin, Greek, one modern language and a light science syllabus: this course could be followed from the sixth to first form inclusive(1).

A': Latin, Greek, one modern language and an extended science syllabus: this course could be taken from the second form on.

B: Latin, two modern languages and the section A science syllabus: this section began with the fourth form.

C: Latin, one modern language and an extended science syllabus: this course began with the second form.

The following table sums up the system of choice:

1st form	A	A'	B	C
2nd form	A	A'	B	C
3rd form 4th form	A		B	
5th form 6th form	Classical			

Modern schooling (long and short):

The main feature here was the absence of Latin and Greek. The sixth and fifth forms had a common curriculum but in the fourth form there were two sub-divisions:

- a long modern course with two modern languages;
- a short modern course with extended French, designed as a continuation of primary schooling but with the addition of one modern language and physics.

In the second form, the long modern course was again divided into two:

M: with two modern languages;

M': with one modern language and natural science.

The position is summarised in the table below:

1st form	M	M'	BEPC
2nd form	M	M'	
3rd form 4th form	Long modern	Short modern	
5th form 6th form	Modern		

2. Technical education

The first years of technical education:

This type of education was established by the 1919 Astier Act and the responsibility for it fell to several ministries. It was designed as a supplement to general education and comprised both theoretical and practical courses. A brief outline of the old structure at first-cycle level within the Ministry of Education is given below:

- training of skilled workers was given in apprenticeship centres. Pupils were admitted between the ages of 14 and 16 years. Although the Certificat d'études primaires (CEP) was not required, it permitted admission before the age of 14;
- technical assistants were trained over a period of four years in the technical secondary schools. In the sixth and fifth forms the curriculum was the same as in the lycées and modern secondary schools. Technical training was begun in the fourth form at age 13, but often the fifth form was considered as a preparatory class;
- training of technicians was the responsibility of the state vocational schools. Recruitment was on a competitive basis and began at fourth form for pupils 15 years of age and above.

Long technical education:

This level of education is for the training of technicians and higher technicians:

- the training of technicians was carried out in the state vocational schools in a five-year course leading to the technician's certificate (BT);
- the training of higher technicians was carried out in the state vocational schools in a two-year course leading to a higher technician's certificate (BTS), provided they already held a technician's certificate. BTS holders were therefore 19 to 20 years old. To this should be added the technical baccalauréat.
- technical training in state vocational secondary schools (Ecoles Nationales Professionnelles, ENP, equivalent to the classical and modern lycées - became technical lycées in 1959).

These schools trained students at several different levels (including apprenticeship centres as well as technical secondary schools and preparation for the technician's certificate). The ENP had a high reputation among users and many of them had preparatory sections for the National Schools of Engineering, Arts and Crafts (ENIAM). At certificate level, they trained specialist technicians.

Recruitment was by competitive examination beginning with the fourth form for pupils aged 15 or over in the year of examination (for entry into the second form the age-limit was raised one year). Even holders of the BEPC or the baccalauréat had to take this examination; it was followed by a vocational guidance test.

There was a single syllabus for the fourth and third forms and two possibilities as from the second: a) a practical side with an industrial section and a commercial section both leading to a certificate; b) an academic side which also had an industrial section leading to the mathematics and technical baccalauréat and then to the preparatory sections for the ENIAM, and a commercial section leading either to the higher commercial certificate or the economics baccalauréat.

Furthermore, holders of the first part of the baccalauréat section A', C, M or M' aged at least 17 could compete for entry to the ENP, where a two-year special technical course prepared them for the entrance examination to the ENIAM.

Students took the certificate at age 19 or 20. They needed an average mark of 12 to pass and were classified according to their special subject and final rating.

Students who had obtained the technician's certificate could go on to a two-year course leading to the higher technician's certificate. This type of training will be in large part abolished when the university institutes of technology (IUT's) are established.

3. The baccalauréats

These were in two parts:

a) The first part at the end of the first form, with the following options:

- Classical - A, A', B and C;
- Modern - M and M';
- Technical: technical A with the science syllabus of C and technology;
  technical B with the syllabus of section M plus economics and statistics.

b) The second part offered five options, all of which included a course in philosophy:

- Philosophy;
- Experimental science;
- Elementary mathematics;
- Mathematics and technology (elementary mathematics syllabus plus technology, technography, manufacturing technology and technical theory);
- Economic techniques which, in addition to philosophy, included economics and law.

All types of baccalauréat included compulsory tests in physical education and sports.

4. The preparatory classes

These were attached to certain lycées but came under the directorate of secondary education and prepared students for the competitive entrance examination to the Grandes Ecoles.

Preparation was either of a literary nature (Ecoles normales supérieures, Ecole normale supérieure de l'enseignement technique, Ecole des chartes and other Grandes Ecoles) or scientific. In accordance with the Decree of 27th June, 1956, science classes were spread over two years and covered three different syllabuses (A, B' and C), corresponding to the various types of engineering school.

A good school record and a distinction in the baccalauréat examination were essential for admission to these classes, which are described in detail in Chapter II. This is an up-to-date description taking account of recent changes (regrouping of curricula, etc.) which, though important, do not modify the essential nature of these classes.

B) Reform of the Baccalauréat in 1959

The Decree of 6th January, 1959, reorganised the baccalauréat. It is still in two parts, one coming at the end of the first form and the other after the terminal class, but with two changes. The first is the abolition of the oral examination. Some subjects in which students were previously examined only orally, e.g. history and geography, were frequently prone to last-minute cramming. Thus, apart from the traditional written tests for each of these sections, two additional tests are chosen by lot from among the former oral subjects. However, a "practical" oral test, taken before the written tests, is included for modern languages, consisting of a conversation based on a simple text.

The second change is the abolition of the September session, thus avoiding the overwork which was not always a source of progress. However, in order to allow for possible "accidents", an oral control test is held immediately after the announcement of the examination results for candidates who have not obtained the average mark of ten out of 20 for all tests combined as required for award of the baccalauréat but whose average is seven or more out of 20. This oral check covers the weak subjects in the written test, French for Part 1 and philosophy for Part 2. Thus, the oral is in fact retained for candidates who fail in the written tests.

C) Reorganisation of the Long Second Cycle: Decree of 10th June, 1965

The lycées cover all types of general education, classical, modern and technical.

Under the Decree of 10th June, 1965, long secondary schooling was reorganised so as to allow for the four-year period of guidance and provide a unified system in which the classical, modern and technical streams were both better integrated and more differentiated.

1. Reorganisation and creation of sections

a) General education

Five sections are provided covering five types of education:

- Section A, with a bias towards literary studies, languages and philosophy, with an art option;
- Section B, with a bias towards economics and the social sciences and including an introduction to the pure and applied mathematics needed for their study;
- Section C, with a bias towards mathematics and physics;
- Section D, with a bias towards the natural sciences and the necessary elements of applied mathematics;
- Section T, combining the science course with an industrial technical course.

All these different sections point to the underlying principles of teaching at this level, the aim being to develop particular aptitudes without sacrificing general cultural education. The idea is to avoid pupils' making the wrong choice after the baccalauréat by offering a sufficiently wide range of sections while still leaving the way open for a change of course at the end of the cycle.

However, to allow for flexibility and continuity of guidance, the sections only take concrete shape at first-form level. At second-form level there are only three streams:

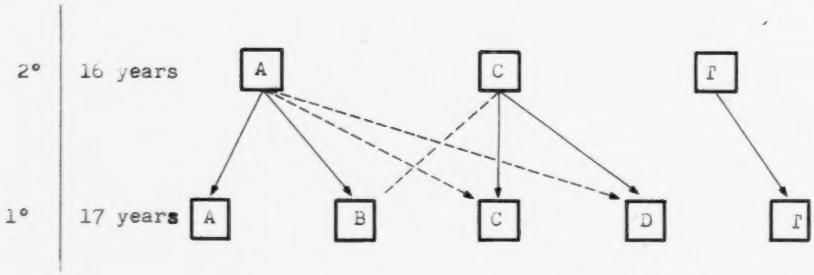
2A: Arts.
2C: Science
2T: Industrial technology.

As from October 1966, five first-form streams lead to the five baccalauréats. Each stream becomes progressively more specialised. Diagram IV shows the flow of pupils from the three sections (A, C and T) of second form to first form streams.

The diagram shows both normal and potential flows since A and C curricula are not too different at second-form level. However, a switch at this stage calls for a real effort of adjustment. The T stream,as can be seen,remains apart from the rest despite the efforts made to integrate technical education with classical and modern schooling.

Diagram IV

FLOW OF PUPILS FROM SECOND FORM
TO FIRST FORM STREAMS



Key

2nd form

A = arts
C = science
T = technical

1st form

A = arts
B = economics and social sciences
C = mathematics and physics
D = applied science
T = industrial technology

———→ = normal flow
------→ = potential flow

Source: Le mouvement éducatif en France - 1965 (The Education Movement in France - 1965), Ministry of Education, 1966.

Specialisation becomes more marked in the terminal classes so as to bring it into line with the different courses of higher education. These terminal classes have been functioning since the beginning of the 1967-68 academic year.

- Terminal A: philosophy, humanities.
- Terminal B: (economics and social) offers both arts and science and a new section which corresponds to a certain turn of mind.
- Terminal C: replaces the old section of elementary mathematics.
- Terminal D: is an optionless variant of terminal C, but with more advanced mathematics (applied science).
- Terminal E: science and industrial technology remain separate.

The way in which the humanities are organised is still the most flexible and allows for a greater individuality in teaching according to the personality of the pupils. This may be due to the wide variety of humanity subjects or may even be the result of considerable specialisation in the first cycle of humanity studies, as provided for in the Decree of 22nd June, 1966.

b) Long technical education

Furthermore, the long technical course is not yet unified. In addition to Terminal T, which alone leads to the baccalauréat and higher education, there are certain long courses of the same duration as the technical baccalauréat course which lead both in industrial technology and in commerce to the technician's certificate, open to girls as well as boys from 1967 (some industrial certificates were previously reserved for boys). Diagrams I, II, and III in Annex XIII show the structure of the long technical courses at the beginning of the 1967-68 academic year after the creation of the technician's baccalauréat. Whenever the level permits, technicians' certificates will become technicians' baccaluréats. There is good justification for this as these technicians' sections follow a common course at second-form level: T or possibly economics A on the commercial side.

Nevertheless the old style technicians' certificates co-exist with the new technician's baccalauréat. They cover roughly 40 specialities.

The fact of having three parallel training streams within long technical education can be explained by the demand for vocational training by level of qualification, as described in the Fifth Plan (see Diagram V).

In fact, technical baccalauréats in secondary education (baccalauréat "B" leading to careers in administration and management, and baccalauréat "T" leading to careers in industry) are general education certificates which give access, through multi-disciplinary study, to higher education. The pupils following this stream should logically be classified at level II in the diagram on completion of higher education.

The technician's baccalauréat covering activities in the tertiary sector, industry and careers in data processing is a vocational diploma. Since training is centred around the study of a given branch of an applied science, it can either lead immediately to working life or be extended by short vocational training (university institutes of technology, IUT's). In the first case, the holder of a technician's baccalauréat fits into the upper branch of level IV in the qualifications scale. If he enters an IUT he may be put at level III on the qualification scale on completion of his short higher training.

Diagram V

VOCATIONAL TRAINING REQUIREMENTS, BY LEVEL

Objectives set out in Fifth Plan

		Proportion	Numbers based on a generation of 840,000	Corresponding occupational qualification
Technical and vocational education	LEVEL I Research	1% } 8%	67,200	
	LEVEL II Long higher training	7%		
	LEVEL III Short higher vocational training	12%	100,800	Higher technicians and assimilated
	LEVEL IV Long vocational training	15%	126,000	Technicians and assimilated
	LEVEL V Vocational training (various levels)	45% to 50%	378,000 to 420,000	Highly skilled and semi-skilled
	LEVEL VI End of compulsory schooling	15% to 20%	126,000 to 168,000	Begin work at 16
	TOTAL	100%	840,000	

Source: Le mouvement éducatif en France - 1965 (The Educational Movement in France - 1965), Ministry of Education, 1966.

The technician's certificate is also a vocational diploma, but one where the curricula deal with a given speciality and where the technical implementation demands a high degree of skill and a long period of practical training. Technicians holding this certificate belong to the lower branch of level IV in the qualifications scale.

It must also be added that some higher technicians' certificates, requiring two years study in a technical lycée, continue to be available, despite the creation of university institutes of technology (IUT). There are not yet enough of these to satisfy the demand for higher technicians (occupational classification level III); and in some new highly specialised sectors (refrigeration, hotel management etc.), new higher technicians' certificates will be introduced by the same reasoning as that responsible for the retention of certain short vocational courses (see below).

2. Conditions for promotion to the terminal class

Promotion from the first form to the terminal class is decided by the principal in consultation with the class council at the end of the academic year; the pupil must indicate the section he wishes to enter one month in advance.

The class council may decide:

- to accept him for the section requested; or
- to advise him to take the first form course again in another section.

If a pupil who is advised to follow a different course from the one he has chosen maintains his original choice, he must pass an entrance examination. In such a case he will have to obtain an overall mark of 10 out of 20 and satisfy other criteria (work, ability, behaviour, progress since second form level).

The overall mark is arrived at as follows: a mark out of 20 is established for each compulsory subject from the average of all term marks, the mark for the last term counting double. The coefficient 2 is applied to the basic subjects in each section and 1 to the other compulsory subjects. The total mark is the average of all these. With 10 out of 20, promotion to the terminal class is automatic unless the class council expressly decides otherwise.

3. The secondary school-leaving certificate

This certificate is awarded once only, after the September session, by the head of the school attended by the pupil concerned (thus excluding outside candidates), to all candidates who apply for it and who obtain 8 out of 20 in all the written tests. The other candidates can repeat the terminal class. The CFES does not give access to higher education and has a very uncertain value since it does not entitle the holder to sit for most of the competitive civil service examinations. But if the baccalauréat becomes more selective as a result of the reform, wider access to administrative careers will have to be given to CFES holders. If, on the other hand, it is not more selective than before, the CFES will be no more than a testimony of failure and therefore quite useless.

As we have seen (Chapter III, I.B.3), the special Decree of 6th January, 1959, issued independently of the general Education Act modified the baccalauréat by spreading it over two years and abolishing the oral examination and the September session.

4. Diplomas earned

a) The baccalauréat and the problems which it poses

The Decree of 6th January, 1959, an act which was independent of the general school law, modified the organisation of the baccalauréat: the examination was spread out over two years and the oral was abolished as well as the September session.

This measure, introduced in 1959, tended to smooth over the difficulties resulting from the increase in the number of candidates without questioning the examination itself. That its value as an assessment can be doubted is a point common to all examinations and opinions are unanimous here. Opinions differ when we come to the function of the examination, which is twofold. It confirms both the end of secondary schooling and automatic admission to higher education at the student's choice.

It is certain that this dual role of the baccalauréat singularly complicates the problem and is at the centre of all the controversy. As successful examinees automatically qualify for university entrance, the baccalauréat has become a symbol of social advancement and the focal point of both parents' and pupils' aspirations, who look upon secondary education primarily as a long schooling leading to the baccalauréat and higher education. But higher education in the faculties, which is not subject to a *numerus clausus* as is non-university higher education (competitive entrance examination), is in fact more difficult: students are allowed more freedom, supervision is more relaxed, students are free to work as they wish, curricula are less rigid, etc. There is therefore a certain contradiction between the ease of access and the talents required, which is not taken into account in the baccalauréat with the result that failure rates are particularly high during the initial university years. Consequently, from the standpoint of the career as a whole, the baccaluréat, though often regarded as such, is no longer the key to automatic promotion, given the special nature of university education.

The inherent difficulties of the question, social pressures and the liberal attitude to education have combined to prevent any thorough-going solution of the problem and the baccalauréat introduced in 1965 retains its dual function.

The 1965 baccalauréat

This is a single examination taken at the end of the terminal class. There are two sessions, one in June-July and the other in September. The written papers are accompanied by an oral test, though not for all subjects; to qualify for the oral, candidates must have an average mark of at least 10 out of 20.

Only candidates who have taken all the written papers at the first session and obtained an average mark between 7 and 10 out of 20 are admitted to the September session. At the second session, candidates with an average mark between 9 and 10 out of 20 in the written papers may be accepted for the oral if they have a good school record.

The baccalauréat gives access either to the faculties or to the university institutes of technology (IUT). In the case of the faculties, the five new baccalauréats are designed to lead more specifically to the following courses:

Baccalauréat A: Faculties of Humanities and Law; it comprises 5 options;
Baccalauréat B: Faculties of Humanities (sociology) and Faculties of Law (economics);
Baccalauréat C: Faculties of Science (licentiates in mathematics and physics) and Faculties of Medicine and Pharmacy;
Baccalauréat D: Faculties of Science (natural science) and Faculties of Medicine and Pharmacy;
Baccalauréat T: Schools of Engineering and Faculties of Science.

Holders of the baccalauréat who wish to take a different course from that for which they have been prepared must obtain special permission from the dean of the faculty. All types of baccalauréat give access to the IUT.

This new five-section baccalauréat was introduced only in 1968 when the pupils who had entered the new second form in 1965 had completed the whole of the new second cycle. Until that time a transitional system had been in operation.

The 1969 baccalauréat

From 1969 onwards this examination was again modified.

This consists of two sets of tests: the first is made up of written and oral examinations. Pupils averaging 12 out of 20 in these will obtain a pass. Another oral group of tests is designed for those who average between 8 and 12 out of 20 at the first tests. The marks given at this second attempt are not used unless they are better than the previous ones. There is no "second chance" session. For all admission procedures, admission panels must give full consideration to the school record (livret scolaire).

Another innovation is the organisation of the French test in the first class (penultimate year) which implements the wishes of the 1968 teaching reform commission. This written and oral test is taken only by pupils admitted to the terminal class since it forms part of the baccalauréat. The purpose is to lighten the syllabus, and consequently the baccalauréat, in the terminal classes. This is perhaps a double-edged measure which may discourage the least gifted who go into their terminal class with a handicap, and may encourage the most brilliant to become slack.

French may however be taken in the oral tests of the second group. There is also an optional French course in the terminal class. The relative importance (co-efficient) of the French test varies according to the section (4 for those doing humanities, 2 for those in science subjects), but is the same for the written and the oral tests(1).

b) Technician's baccalauréat

The system for the new technician's baccalauréats was established by Decree of 20th November, 1968. The examinations are open to two types of candidate: to pupils who have taken full-time education in technical sections of long upper secondary and to candidates authorised to present themselves under the social upgrading scheme and for whom special tests are arranged. In the second case, the candidates may be not less than 21, with two years' experience in a full-time occupation, or young people who have taken long technical education and have had one year's practical experience.

The technician's baccalauréat primarily gives access to university institutes of technology (short higher education). However, the more practical training, although at an advanced level, prepares the student for direct entry into active life. Thus the technician's baccalauréat is still quite different from the technical baccalauréat in terms of access to higher education.

There are eleven technician's baccalauréats: seven relating to activities in the industrial sector (training in mechanics, electronics, electrical engineering, civil engineering, physics, chemistry and bio-chemistry) and four relating to activities in the tertiary sector (administration, management, salesmanship and data processing).

A Decree of April 1969, had laid down the way in which the examination was to be conducted. The first technician's baccalauréats were awarded in June 1969. One of the characteristics of French technical education, although it is less of an oddity as a result of the reforms, is its bulk; the aim of this Decree was to ease the process of gaining the diploma. The underlying principles are as follows:

- two-fold aim of the technician's baccalauréat, enabling either direct access to active life or access to some form of higher education; there is therefore no equivalence between general education examinations and vocational tests;
- consideration of the two different sources of candidates who are either school-leavers or upgrading candidates; for the latter some special arrangements have been made concerning the tests;
- the results (if they are higher than average) may be held over for subsequent sessions; this is valid for one year for school-leavers and five years for others;
- introduction of an alternative examination exclusively for general education where the failure risk is much higher;
- possibility of exemption from written examinations for some candidates whose results throughout the year are considered satisfactory.

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1) In future, the co-efficient of the written test will be higher.

The examination consists of two series of tests: general education examinations and written and graphic vocational tests; and practical vocational tests. To pass the baccalauréat, the candidate must obtain an average in both types of tests which nevertheless remain independent; those who have an average in one and not in the other can benefit from this for three years if they are school-leavers and five years if upgrading candidates.

The baccalauréat also includes a prepared test in French (written and oral), the relative importance of which is higher in industrial sections (coefficient 2) than in sections relating to the tertiary sector (coefficient 1.5).

c) The technician's certificate (BT)

The new examination system aims to give more importance to the school record. Therefore the general and vocational tests are divided into two series. If the candidate passes the first series and his school record is satisfactory he is exempted from the second. The certificate is issued to students with an overall average of 12 out of 20. By contrast with the rules for the technician's baccalauréat, there may be equivalence between general and vocational tests.

d) Higher technician's certificate (BTS)

The new structure of the examination was introduced in 1969.

It consists of two groups of tests, as for the baccalauréat. After the first group, the examining board refers to the candidate's school record and takes one of the following three decisions:

- definite elimination;
- authorisation to take the tests in the second group;
- definite acceptance.

The candidate can retain the right to take the first group of tests.

The new look of long upper secondary education may be summed up in the following way:

- classical, modern and technical education relatively integrated and spread over three years;
- long technical education with a vocational bent also spread over three years, but in two different streams: one aims at a specific technical capability with a view to a given career, the other at a wider technical knowledge than the career itself, leading to greater occupational mastery within related activities which may be developed and supplemented by short higher vocational training;
- the former section for higher technicians in technical lycées is gradually being phased out as the university institutes of technology are introduced. However, a certain number still exist and new specialities will even be introduced;
- the preparatory classes for the Grandes Ecoles continue to be maintained in lycées as before.

II. SHORT SECOND CYCLE EDUCATION: VOCATIONAL TRAINING

Short secondary education consists of two types of training: a scholastic-type training given in CET's and in-firm training together with part-time schooling and apprenticeship. This short technical education has been considerably modified as a result of the reform of first cycle secondary education.

A) Organisation of Short Technical Education before 1963

Technical education was established by the 1919 Astier Act and was intended for both girls and boys. It was designed as a supplement to general education and comprised both theoretical and practical courses in science, arts and trades for industry and commerce.

A number of ministries were involved in this type of education:

- The Ministry of Agriculture: regional schools of agriculture and horticulture, the School of Fruit-tree and Vine Growing, the Dairy Industry School, agricultural domestic science teaching and the winter schools of agriculture.
- The Ministry of Social Affairs: adult vocational training centres, building and public works courses, and rehabilitation of the mentally retarded and physically handicapped.
- The Ministry of National Defence: dockyard and naval apprentices, National School of the Merchant Marine, National School of Civil Aviation.
- The Ministry of Industry: SNCF, Gaz de France and other apprenticeship schools.

The educational role of these various ministries will be explained at a later point. The Ministry of Education's technical training activities were organised as follows for the various levels of qualifications and skill in industry and commerce:

Skilled workers: a three-year course in apprenticeship centres followed by a Certificat d'aptitude professionnelle (CAP) (Trade Proficiency Certificate) with a view to the exercise of a trade.

Technical assistants: a four-year course in technical secondary schools leading to a certificate (brevet) for industrial (BEI), commercial (BEC), social (BES), or hotel and catering (BEH) careers, etc.

Responsibility for the content of the various vocational courses lay with the 24 National Trade Advisory Boards which prepared about 200 CAP's and some 30 trade certificates and whose activities were co-ordinated by the National Inter-trade Advisory Board set up by the Act of 8th June, 1951.

Lastly, side by side with this full-time teaching, part-time courses were provided for 14 year olds who had completed compulsory schooling: craft apprenticeship (two years) organised by the Chambers of Trades (Act of 21st May, 1953), together with the part-time vocational courses made compulsory by the Astier Act, under which young people of 14 to 17 were obliged to attend general and technical courses for 150 to 200 hours per year during their apprenticeship period. This type of apprenticeship contract was possible also in industry and commerce.

a) Training for skilled workers and operatives in industry and commerce in apprenticeship centres

These centres were specialised by region. Trainees were enrolled between 14 and 16 years of age. The primary school certificate (CEP) was not required but permitted entrance before 14 years of age. The first half-year was a period of orientation prior to apprenticeship. This was followed by a course combining both general education and practical trade training. After two years, the trainees sat for the Trade Proficiency Certificate (CAP).

b) Training of supervisory staff and technical assistants in technical secondary schools (equivalent to the classical and modern secondary schools in general education)

This type of training was provided by the technical sections of the lycées and collèges recognised by the Directorate of Technical Education and by certain trade sections in continuation courses (under the Directorate of Primary Education).

In the sixth and fifth forms (first two years of secondary schooling), the syllabus was the same as for the modern lycées and collèges. Admission to technical education therefore took place at fourth form level at age 13, while the fifth form was often regarded as preparatory.

This training led to one of the four trade certificates: the industrial certificate (BEI), the commercial certificate (BEC), the social welfare certificate (BES), and the hotel and catering certificate (BEH). It was obtained at the end of three, four or five years (cf. Annex V).

Remarks

i) It was mainly in the Paris area that trade sections were developed in continuation courses and CET's. The level of training varied, some preparing for the CAP (commercial subjects in particular) and others for the trade certificate. In some sections students were prepared only for the first part and went on to a technical secondary school for the second part.

ii) Trade schools preparing students for a CAP, which is in fact the equivalent of a brevet, have existed since 1926 for certain specialised branches (e.g. optical instrument making). They recruited pupils aged 13 or 14 at the end of their compulsory schooling. The course lasted four years and more time was spent than in technical secondary schools on practical workshop exercises. These schools were generally attached to Chambers of Commerce or to a trade association. They were grouped by branches and covered many special subject.

B) The Short Second Cycle: the Collèges d'Enseignement Technique and Vocational Training

There are a number of texts relating to the reform of technical education. The Act of 6th January, 1959, supplemented by the Decree of 3rd August, 1963, laid the foundations for its re-organisation, while the Act of 3rd December, 1966, laying down guidelines for vocational training, combines all the innovations in an overall concept.

1. Purpose of the reform of the short second cycle

The purpose of the reform is to change the present state of affairs, which may be summed up as follows: out of an age group of 850,000 youngsters aged 16, 50 per cent take up work without having received any vocational training at school and 30 per cent without any vocational training at all. This is far below what is needed. In 1966, only 140,000 youngsters (i.e. 16.2 per cent of the age group) were studying for a CAP at school out of a possible 400,000.

Furthermore, there is a big difference between the number of girls and the number of boys receiving vocational training. In 1966, for example, 350,000 girls out of 800,000 were attending a technical secondary school and only 60,000 out of 300,000 had an apprenticeship contract.

This weakness of technical education is all the more serious as technological development with its cumulative effects calls for higher standards of skill. In France, two-thirds of all occupations in 1962 called for training beyond the school-leaving age and by 1978 the proportion will have risen to three-quarters.

The reason for this state of affairs was the incoherence and dispersion of technical education, and the lack of balance of the educational system as a whole. In order to make good these deficiencies, the enactments referred to above seek to establish closer links between technical and vocational education and general schooling, as well as to provide guidance at the various levels so as to relate education more closely to employment and give "preliminary training" a new bias. By considering what the relationship between vocational training and employment should be, it is possible to arrive at the best theoretical distribution of occupational levels. (See Diagram V for the various levels of training.)

The distribution given shows requirements for skilled personnel and the corresponding types of training that need to be introduced or developed. The reorganisation of the short second cycle described below therefore relates to level V. The introduction of the sub-group "vocational training-promotion" divides level V into two categories:

Level V(a), corresponding to the two-year course for skilled workers who intend to take up work immediately after obtaining a general vocational training certificate;

Level V(b), corresponding to the one-year course for semi-skilled workers.

2. The courses

a) The two-year course (corresponding to the old CAP) includes training sections for both industry and the service sector. The number of sections was appreciably reduced in both cases in accordance with the general principles underlying the reform: the training is intended less to prepare youngsters for a particular job or trade than to give them the all-round training and adaptability needed to cope with a number of jobs of a given level in a group of trades, the level in this case being that of "skilled worker".

There are four industry sections:

- building worker;
- machine operator;
- assembler-mechanic;
- electronics worker;

There are also four sections for the service sector:

- administrative staff;
- shorthand-typist/correspondence clerk;
- bookkeeping and use of office machinery;
- commerce.

The new two-year vocational educational certificates (BEP) are at the same level as the old-style three-year CAP though their functions are different. The BEP courses were created with an eye to the general social and occupational future of adolescents.

b) At the same time, side by side with the two-year training for industry and commerce, it was thought necessary to provide a more specialised one-year course. This is intended for youngsters who on reaching school-leaving age start work without any vocational training after completing the practical terminal cycle and also for those who have not the ability to sit for a BEP with any chance of success. This is a short course designed to turn out semi-skilled workers (ouvriers spécialisés - OS) corresponding to lower level V and intended to meet a specific economic need. This course was followed by a small number of children among those enrolled in various types of schooling (1,725 in 1969, the year in which the course was introduced)(1).

3. The training received

The two-year course leads up to a vocational education certificate (BEP) corresponding to the level of skilled worker for a whole group of grades. The training provided is more broadly based than that leading to the old CAP and will make for greater occupational mobility throughout working life. In view of developments in technology and changes in the pattern of employment calling for higher levels of skill, it is to be hoped that firms will appreciate these BEP holders even though they cannot be used immediately for any specific job.

The one-year course leads up to a trade certificate (CEP). This is not a public examination but confers the qualification of semi-skilled worker who can be employed directly in a particular job.

Thus, short second cycle training is tailored to the requirements of a range of jobs calling for level-V skill, as indicated in Diagram V.

Remarks

Parallel with the new forms of education, traditional education is still available.

Some CAP's (Trade Proficiency Certificates) which are the end point of a highly specialised training will be retained because they cannot be assimilated by the aims underlying the new upper secondary schools. This training also takes three years but it may be arranged to take only two.

While waiting for all the new first cycle secondary schools to be set up, the former three-year CAP's are still available, candidates being drawn mainly from terminal primary classes, where these are still functioning, and also from the transition section. The students attending the latter leave general education at the end of the fifth form (second year of first cycle) which is contrary to the spirit of the reform. The authorities responsible have requested head teachers to keep these pupils in first cycle so that they may, after that period, take a two-year training in the new upper secondary schools.

Thus, short upper secondary, besides the rather more specific formula of vocational education sections (see Chapter II, Title I), consists of four streams:

- two-year training for a BEP (Trade Certificate) after first cycle general secondary;
- three-year training for a CAP (Trade Proficiency Certificate) for pupils from terminal classes in primary education, for a transitional period only;
- one-year training for a CEP (for pupils having completed first cycle secondary education);

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1) In 1969-70, there was an enrolment of 1,874 students.

- admission to a pre-vocational class for secondary school-leavers or those from the transition section not admitted to fourth practical class (penultimate year of first cycle secondary). These pre-vocational classes organised in CET's of the new type should provide vocational training in one year. Only recently set up, they had only 1,927 students in 1969-70, but it is hoped that this number will rise to 10,000 by the beginning of the 1970 school year.

With few exceptions co-education is the rule. The vocational certificates formerly taken in technical secondary schools, and not greatly appreciated in the labour market, have disappeared.

The aim of re-organising short technical education was to redefine the highly characteristic training streams in relation to the qualifications scale, taking into account the present and future needs of economic life. These new forms of training are based on the orientation approach. It was hoped that this reform would bring a better adaptation of education to the skills really required and would make technical education more attractive. It is as yet too early to give an opinion on the first point, it is however clear that numbers have not increased but rather tended to decrease in school-type vocational training, while 200,000 young people are still leaving compulsory education with no vocational training whatsoever. Despite many possibilities numbers remain low, particularly in the shortest types of training.

4. Harmonization of school training with post-school training at this level

School training has long existed side by side with post-school training. Up to now, all the different forms of industrial and commercial technical education have been governed by the Astier Act of 25th July, 1919, which covered not only school and post-school training at all levels (training of workers, supervisory staff and technicians) but also the training of apprentices, manual workers and office workers under 17 years of age (Statutory Decree of 1938).

Under this Act there were two types of training for skilled workers: apprenticeship or a technical secondary school course, both leading to a CAP of the same level.

The educational reform could not fail to influence this kind of training: the extension of compulsory schooling and its consequences, together with the re-organisation of technical education and the Act of 3rd December, 1966, laying down guidelines and establishing a programme for vocational training, all tend towards further harmonization, especially at level V, in the light of the requirements and present conditions of economic and social life, oriented less towards the exercise of a particular trade than towards fulfilling an economic function in society.

The present structure of technical education and its dependence on the general education system have already been explained above. The paragraph which follows deals with the problems of post-school training resulting from the reform and the present trends towards the re-organisation of apprenticeship with a view to greater harmonization with the structures set up by the Ministry of Education.

a) Organisation

According to the 1919 Astier Act, the title apprentice is subject to the existence of a work contract in writing (Act of 11th July, 1957) which may be an authenticated instrument or a private agreement covering a fixed period (generally three years) and authorising lower wages to be paid.

Such apprenticeship contracts exist in industry, commerce and the professions. They also exist in the craft or trades sector. There are several aspects to apprentice training. Side by side with in-firm training, apprentices are obliged to attend part-time post-school classes for a minimum of 150 to 200 hours a year, even more in some cases: in the trades sector, for example, post-school classes may account for as much as eight hours a week. There are many different types of courses: general courses covering several types of apprenticeship, trade classes or correspondence courses. In addition, some firms have their own apprentice training schemes. Such firms obtain 100 per cent passes in the CAP: this means that the training provided is excellent but the very high rate of success owes much to the rigorous system of selection. Apprentices trained in firms account for about 15 per cent of those under contract in the non-trade sector. At the end of their training,apprentices take an examination: the CAP for the industrial and commercial sectors and the professions, and the craft apprenticeship examination (EFAA) in the trades sector.

b) Enrolments - present position(1)

In 1963-64, the distribution of the quasi-totality of apprentices by type of training was as follows:

- 80 per cent received a practical training on the shop floor;
- 15 per cent were trained in the apprenticeship sections of factories or other establishments (especially in mining, transport, metalworking and textiles);
- 1.5 per cent were trained at school or in an independent factory or trade association centre (hairdressing).

During the period 1958-59 to 1963-64, two-thirds of all work contracts were in the following branches, in decreasing order of importance:

- metalworking (boys);
- textiles (girls);
- construction and building maintenance (boys);
- food production and processing (mainly girls).

The duration of the contract varies with the type of trade. In 1963-64, contracts were distributed by duration, as follows:

- one year: 20 per cent;
- 13 months to two years: 15 per cent;
- 25 months to three years: 59 to 61 per cent;
- more than three years: 4 to 6 per cent.

The shortest contracts are to be found in the following branches: yarns, fabrics working of fabrics and related materials, and hides and skins. In these branches, almost all the apprentices are girls.

The number of students in the vocational courses alone who asked the Ministry of Education for a grant rose by 50 per cent between 1959 and 1965. It fell to 233,910 apprentices in 1967-68 (not including young workers, adolescents under 18 years of age no longer under apprenticeship contracts). The largest training bodies are,in order:

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1) Revue Française du Travail (French labour review), July-September 1966. The study concerns the period 1958-59 to 1963-64 and excludes the craft sector.

craft guilds, municipalities and départements, private bodies, training centres for apprentices (bodies that have signed a co-operation agreement with the Ministry of Education) and Chambers of Commerce.

c) System of exemptions

Article 2 of the Labour Code specifies that "no young person may be employed or taken into a firm before he has completed compulsory schooling". But exemptions have always been granted on an individual basis by arrangement between the head of the applicant's school, his familility and the receiving firm.

On this point the Labour Code specifies: "However, these provisions do not prevent adolescents during their last year at school from following courses of practical training in firms under the conditions laid down by the enactments relating to school education". It was in fact in the interests of certain adolescents approaching school-leaving age who wished to start work to take up a contract of apprenticeship rather than stay in the last class for another year or two.

These exemption arrangements have been extended pending the provision of sufficient school accommodation to enable the 1959 decision to extend compulsory schooling to be put into full effect. Apart from the SEP, which have already been described, other provisional arrangements have been made. The Order of 27th September, 1967, specifies that for a transitional period ending on 31st December, 1972, adolescents aged 14 before the beginning of the 1968 school year could take up a contract of apprenticeship for the last two years of their compulsory schooling provided they had obtained individual exemption in accordance with the Ministry of Education's requirements. It is, then, the duty of the employer to see that young workers and apprentices still subject to compulsory schooling are given sufficient free time during the working day to complete their schooling. The apprentice may or may not be paid for such time, according to the terms of the contract of apprenticeship.

d) Outlook for the future

Under the old system, a CAP taken at school had theoretically the same value on the labour market as a CAP taken under a contract of apprenticeship. But in-firm training was often a kind of pre-recruitment which, despite success in the CAP, was more job-oriented than the kind of training given at school. As school training lasted three years, it was automatically assumed that the contract of apprenticeship was also for three years. In practice, however, as we have seen, the duration of contracts varied considerably.

With the reform of short technical schooling introduced by the Ministry of Education, this type of training has been reduced to two years since pupils are now recruited at a later age and with a higher level of general education. A similar trend is apparent in regard to contracts of apprenticeship. It seems likely that in future such contracts will tend to be of the same duration as school training at the equivalent level.

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* *

The aim of the reform was to make technical education less isolated while at the same time preserving intact the purpose of this type of training.

There was also a need to relate technical and vocational training more to economic life through concerted policy, the principles of which were laid down in the Act on Vocational Training of 3rd December, 1966. All the efforts and all the institutions(1) must be organised so as to achieve national objectives and also to ensure that public education facilities are used to the full.

This Act covers vocational training (basic training) studied here as well as social upgrading (continuing training). The contents of the Act particularly relevant to the latter will be given here.

Trends by type of training (courses requesting a subsidy from the Ministry of Education) are as follows:

TABLE 82

Trends in numbers taking vocational courses from 1959 to 1968

Establishment	1959/60	1967/68
Départemental, municipal courses	71,100	83,900
Craft Guilds	75,000	122,600
Chambers of Commerce	52,400	8,700
Private Organisations		40,400
Training centres for apprentices	-	16,200

Source: Ministry of Education.

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1) i.e. the state, local communities, public and private educational establishments, associations, vocational, tradesunion and family organisations, and enterprises.

Chapter II

HIGHER EDUCATION

The 1966 decrees, by introducing the concept of cycles, considerably changed the structure of higher education. The following paragraphs first describe the old system, indicating its main inherent defects, then go on to consider the general objectives of the higher education reform.

I. THE OLD SYSTEM (PRIOR TO 1966)

The old higher education system was characterised by the dichotomy between the faculties and the Grandes Ecoles (higher educational establishments). The Grandes Ecoles provided training for specialists to meet the specific needs of industry and commerce, while the faculties were, in principle, responsible for training teachers and researchers. Although this was true for the faculties of humanities and sciences, it was much less so for the faculties of law, medicine and pharmacy, many of which offered their students training of a professional type.

We shall not deal here with the problem of the Grandes Ecoles (discussed in detail in paragraph VII of the present chapter) as they were not much affected by the recent decrees.

As regards the five faculties (science, humanities and social sciences, law and economics, medicine and pharmacy), the first point to note is their isolation from each other. This tended to favour the traditional forms of education as against the more modern inter-disciplinary forms.

The general pattern of studies in the faculties was as follows: after the baccalauréat (the beginning of higher education and the end of secondary education), propédeutique, degree and doctorate. This pattern of education, over-simplified here, applied more particularly to the faculties of humanities and science. In the faculties of law, medicine and pharmacy, the highest university degree giving access to teaching posts in higher education is not the doctorate of medicine or the pharmacy degree, which simply entitle the holder to practice a profession, but the agrégation(1). For more detailed information on the earlier organisation, the reader is referred to Annex VII. In view of the complexity and scope of the reform of medical studies and so as not to split up, in this study, items which in fact form a whole, the comparison between the

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1) The agrégation in humanities and science is not a university degree but a competitive examination for recruitment to the higher teaching posts in secondary education.

old and new system of studies is given in Section IVC of this chapter. What can be said at this point, however, is that medical studies lasted six years, at the end of which, and after defending a thesis, successful candidates were awarded a doctor's degree. Prior to these medical studies, the student attended courses in a faculty of science leading to the physics-chemistry-biology (PCB) certificate. The pharmacy degree could be obtained after six years of study, the first being devoted to a full year's training in a dispensary.

A) Defects and Inadaptability of the System

The system was fraught with a great many problems and difficulties of both a qualitative and quantitative nature. The present expansion of higher education brought about by demographic, social and economic pressures (demand for labour) has underlined the need to develop and adapt the system still further, despite all that has been done in this direction in recent years.

The number of students has increased eightfold in the last 20 years and yet society's need for qualified personnel is far from satisified. The following are some of the reasons for this shortfall:

1. Weakness of links between the faculties and industry

Apart from the teaching profession and fundamental research, faculty studies had no direct occupational outlet. But the growth of enrolments has been such that many students cannot - or do not want to - take up a teaching career. Even more serious is the fact that whereas the specialised schools whatever their level have a system of competitive admission, the faculties do not. The concentric pattern of the education provided by the faculties was such that each university degree served as a pass to a higher degree, with research as the ultimate goal. Meanwhile, there were no direct career openings. As a result, many students had to take additional training in order to prepare themselves for a career other than teaching. And now that the great teacher shortage of the 1960's has been overcome, there will in future be far fewer openings in that profession for a much greater number of students. It seems in fact that by the 1980's about 50 per cent of faculty graduates will have to seek a profession other than teaching.

2. Low output of higher education

This is the second weakness of the education system. The mediocre output of higher education has been measured in Book I of this report (Part Two, Chapters I and II).

II. GENERAL AIMS OF THE 1966 REFORM

The point of departure here is the concept of the end purpose, and therefore the function, of the university. This function is twofold:

- an educational function, i.e. the acquisition of knowledge,
- a social function, namely the vocational training of students. This emphasis on the social role of the university is an essential feature of the reform, the aim being to prepare students for professional life. Despite the emphasis placed on this function in the enactments of 1966, there is nothing new about it. From the earliest times the Grandes Ecoles have always had a direct vocational outlet, as have the faculties of medicine and pharmacy. The same was true of the faculties of humanities and science, whose vocational purpose, although indirect, was the training of future teachers. The law faculties, although they trained a small number of teachers, were less vocationally oriented than the faculties of medicine and pharmacy.

However, while the higher education system has been taking in a growing number of students, the needs of society for highly qualified personnel have been expanding and diversifying.

A) Requirements

These are primarily at technician and researcher level.

1. Requirements for higher technicians

Training of higher technicians was one of the shortcomings of the old education system. Assuming that for one technologist or engineer four or five technicians are required (the present ratio is 1:2), the growth in the number of technologists and engineers means that the number of technicians will also have to increase by something like 8 per cent annually on average over the period 1960 to 1975. It is precisely this shortage of technicians which the new university institutes of technology (IUT) are trying to overcome.

2. Requirements for researchers

As we have already seen, soon there will no longer be a majority of prospective lycée teachers in the faculties of humanities and science. The vocational outlets of these faculties therefore had to be increased. Accordingly, following a two-year common course, a short course has been introduced for prospective teachers together with a long course geared to research and the private sector. This was particularly necessary in that the nation has nothing like the potential research force it should have. In 1966 there were 25,000 researchers, whereas in 1970 about 45,000 will be needed. To meet this need, the potential source of recruitment has to be expanded at secondary level through better guidance and new teaching methods; this is especially necessary because the more research is developed the higher the standard of scientific education needs to be. Allowing for this relation between secondary and higher education, the 1966 enactments set up higher education structures which would make it possible to train the required number and types of highly qualified personnel.

B) Putting the Reform into Effect

The first step was to diversify higher education by setting up the IUT and reforming the faculty courses.

Diversification meant more effective guidance of students and stricter scholastic requirements.

The next step was to provide more opportunities for transfer from one type of course to another.

Diagram VI shows the old structure of higher education as compared with the new.

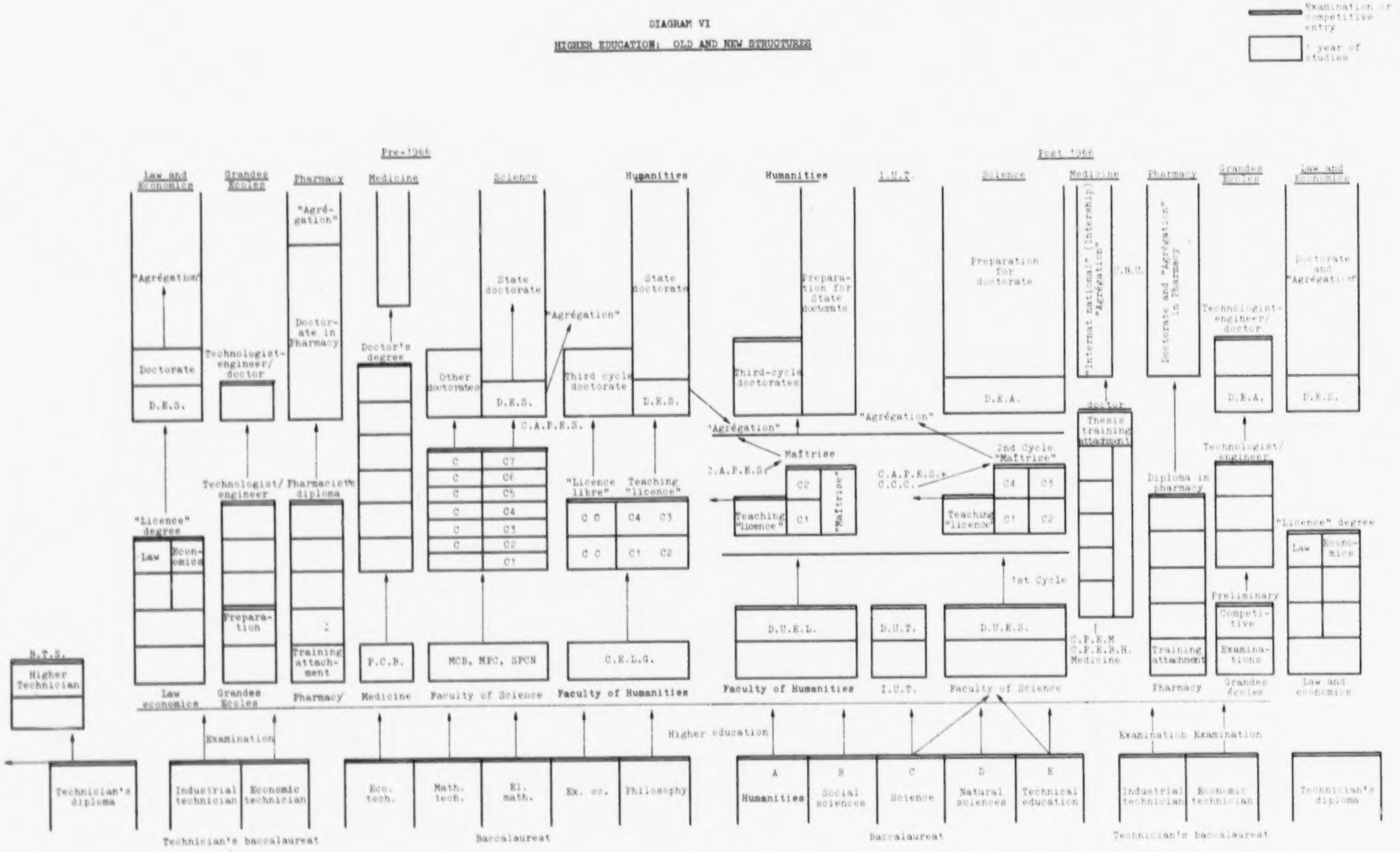
III. UNIVERSITY ENTRANCE REQUIREMENTS

A) Basic Principles

The growth of demand for middle and upper-level executive personnel in the different sectors of activity, and the increase in enrolments, prompted the authorities to review university entrance requirements in the light of the continuous guidance system associated with the reform of general and technical secondary education. They did away with "pre-university" education, which had been in force for ten years in the form of the propédeutique, introduced in the science faculty in 1947 and in the faculty of

DIAGRAM VI

HIGHER EDUCATION: OLD AND NEW STRUCTURES


Examination or competitive entry
1 year of studies
Pre-1966
Post 1966
Law and Economics
Grandes Ecoles
Pharmacy
Medicine
Science
Humanities
Humanities
I.U.T.
Science
Medicine
Pharmacy
Grandes Ecoles
Law and Economics
"Agrégation"
Doctorate
D.E.S.
"Licence" degree
Law
Economics
Technologist-engineer/doctor
Technologist/engineer
Preparation
"Agrégation"
Doctorate in Pharmacy
Pharmacist's diploma
Training attachment
Doctor's degree
P.C.B.
State doctorate
Other doctorates
D.E.S.
"Agrégation"
C.A.P.E.S.
C
C7
C6
C5
C4
C3
C2
C1
MCB, MPC, SPCN
State doctorate
Third cycle doctorate
D.E.S.
"Licence libre"
Teaching "licence"
C C
C4
C3
C1
C2
C.E.L.G.
Preparation for State doctorate
Third-cycle doctorates
"Agrégation"
Maîtrise
C.A.P.E.S.
Teaching "licence"
C2
C1
"Maîtrise"
D.U.E.L.
D.U.T.
Preparation for doctorate
D.E.A.
"Agrégation"
2nd Cycle "Maîtrise"
C.A.P.E.S.+ C.C.C.
C4
C3
Teaching "licence"
C1
C2
1st Cycle
D.U.E.S.
"Internat national" (Internship) "Agrégation"
C.H.U.
doctor
Thesis training attachment
C.P.E.M
C.P.E.B.H.
Medicine
Doctorate and "Agrégation" in Pharmacy
Diploma in pharmacy
Training attachment
Technologist-engineer/doctor
D.E.A.
Technologist/engineer
Preliminary
Competitive
Examinations
Doctorate and "Agrégation"
D.E.S.
"Licence" degree
Law
Economics
B.T.S.
Higher Technician
Law economics
Grandes Ecoles
Pharmacy
Medicine
Faculty of Science
Faculty of Humanities
Faculty of Humanities
I.U.T.
Faculty of Science
Pharmacy
Grandes écoles
Law and economics
Examination
Higher education
Examination Examination
Technician's diploma
Industrial technician
Economic technician
Technician's baccalaureat
Eco. tech.
Math. tech.
El. math.
Ex. sc.
Philosophy
Baccalaureat
A
Humanities
B
Social sciences
C
Science
D
Natural sciences
E
Technical education
Baccalaureat
Industrial technician
Economic technician
Technician's baccalaureat
Technician's diploma

EXPLANATORY KEY

BTS = Brevet de technicien supérieur
(Higher technician's diploma)
CAPES = Certificat d'aptitudes professionnelles aux enseignements de second degré
(Certificate of vocational aptitude for teaching at secondary level)
CELG = Certificat d'études littéraires générales
(Certificate of general literary studies)
CHU = Centres Hospitaliers et Universitaires
(University Hospital Centres)
CPEBH = Certificat préparatoire avec études de biologie humaine
(Preparatory certificate for studies in human biology)
CPEM = Certificat préparatoire aux études médicales
(Preparatory certificate in medical studies)
DEA = Diplôme d'études approfondies
(Certificate of extensive studies)
DES = Diplôme d'études supérieures
(Certificate of advanced studies)
DUEL = Diplôme universitaire d'études littéraires
(University diploma in humanities)
DUES = Diplôme universitaire d'études scientifiques
(University diploma in science studies)
DUT = Diplôme universitaire de technologie
(University degree in technology)
IUT = Institut universitaire de technologie
(University institute of technology
MGP = Mathématiques générales,physique
(General mathematics and physics)
MPC = Mathématiques, physique, chimie
(Mathematics, physics and chemistry)
SPCN = Sciences physiques,chimiques et naturelles
(Physics, chemistry and natural sciences)
Ex. Sc. = Sciences expérimentales
(Experimental sciences)
El. math. = Mathématiques élémentaires
(Elementary mathematics)
Math. tech. = Mathématiques et techniques
(Mathematics and technical subjects)
Eco. tech. = Technique économique
(Economic/technical course)
Maîtrise = Equivalent of a Master's degree

humanities in 1948 to make up for a certain lowering of the baccalauréat standard. The propédeutique was intended to provide an introduction to higher education, facilitate the transition from secondary education and set the course for future studies.

But under the new system of continuous rather than selective guidance prescribed by the reform with the aim of systematically determining where a student's talents lie, it is possible to screen students, with the result that the baccalauréat holder can go straight into a two-year consolidated course of higher education and thus get started on his line of study, which of course becomes more and more definite as his studies progress.

There is thus a very positive link between long secondary studies and access to higher education, which needs to be differentiated and more clearly defined. However, the faculty entrance examinations introduced in 1956 to enable, subject to certain conditions, those who had not had a full secondary education or who, through some mischance, had failed their baccalauréat to try for a higher education still stand. These two points are discussed in greater detail below.

B) Admission to the University following Secondary Studies

1. Numbers of students

Under the present system of continuous guidance there are three major stages in the student's career:

- the first at age 11 on entry to the sixth form;
- the second at age 15 on entry to the second form; and
- the third at age 18 before going on to a higher educational establishment, which is what interests us here.

Whether the pupil will take the long course or not is decided at the second stage (entry to the second form). According to the Fifth Plan, a typical class of students at the end of the third form will be broken down as follows:

- 25 per cent will not continue their studies beyond compulsory school age;
- 40 per cent will take the short second cycle (this type of course, in which guidance is continued, helps both to cut down the number of drop-outs at baccalauréat level and to train a good many of the executive-grade staff the economy needs while still leaving the way open to higher education through social upgrading schemes - see section C below);
- 35 per cent will take the long course. Consequently, more than one third of the secondary school population are potential candidates for higher education whether they intend to enter the faculties or the Grandes Ecoles.

But not all of them will actually go on to a higher education establishment since this will depend to a large extent on the type of course followed at second-form level(1).

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1) There are three sections at second form level in which students are enrolled according to the guidance recommendation given at the end of the first cycle:

- a literary section;
- a science section; and
- a technical section; this does not necessarily lead to the technical baccalauréat E (formerly baccalauréat T); it may also lead to the technicians' baccalauréat and diplomas which do not automatically give access to a faculty. Holders of the technical baccalauréat or the technician's diploma may be admitted to the faculty on the strenth of their scholastic record.

Moreover, as will be seen further on, it is no longer possible for a baccalauréat holder to follow any higher education course he may choose, since higher education, according to an official definition, means: "education in which practising men of science (or, depending on their professional activity, economists or technologists) are really in contact with the students in a direct dialogue which associates teacher and taught in the same process". This is a very broad definition of higher education which implies the possibility of expansion linked with the overall development of society, diversification according to individual worth and aptitudes, and also an endeavour to increase the representation of those social categories which hitherto were under-represented. In October 1967, out of 600,000 students 85 per cent were enrolled in faculties and 15 per cent in the Grandes Ecoles, the IUT and the university institutes. With a distribution like this there was clearly a need to step up recruitment to the Grandes Ecoles or to get the universities to put more emphasis on training for the professions, a role which has fallen to the IUT.

However, access to higher education does not depend solely on the nature of studies during the long second cycle but also on the end-of-cycle results. A more specialised baccalauréat will doubtless be more difficult than the present baccalauréat. To pass this examination an average mark of 10 out of 20 will be required. Those who obtain between 8 out of 20 and 10 out of 20 will be issued, on request, a certificate of secondary studies which will not give them access to higher education.

Thus, at baccalauréat level the possibilities are as follows:

- professional training, the university institutes of technology (IUT) - a two-year course;
- faculties (humanities or science) where, after completing a two-year common course, students may opt for teaching (*licence*) or research (master's degree course). Faculty of Medicine. Faculty of Law, where the common course lasts one year;
- Grandes Ecoles, which will continue to take only students of exceptional ability.

Special conditions for admission to faculties and university institutes have, however, been introduced for holders of the technician's baccalauréat and certain technician's diplomas. These measures have a definite social aim and are designed to relax the conditions of access to higher education, which are explained below.

2. Admission to the various higher education establishments

The requirements can be summarised as follows:

The faculties: normal requirements:

Baccalauréat A:	humanities (all sections) and law;
Baccalauréat B:	humanities (social sciences) law (economics) science (sections preparing for studies in medicine and pharmacy);
Baccalauréat C:	science (all sections) including courses preparing students for the faculties of medicine and pharmacy;
Baccalauréat D:	science (natural sciences: chemistry and biology, or biology and geology);
Baccalauréat E: (Formerly Baccalauréat T)	science (all sections).

All the above types of baccalauréat permit entrance to the faculties of humanities.

The faculties of science accept in principle only holders of the baccalauréat in groups C, D, or E. Group D holders may not opt for the MP (mathematics and physics) or PC (physics and chemistry) sections without personal authorisation from the dean following consideration of their scholastic records. Certain baccalauréat holders in groups A and B may, however, be admitted if the dean so decides. The other four faculties are open to all baccalauréat holders of all groups and even to certain students who do not hold the baccalauréat.

All five categories of baccalauréat ensure entrance to the IUT. Students enrol in one department or another according to the type of baccalauréat they hold. With regard to the preparatory classes for the Grandes Ecoles Scientifiques, there is good reason to believe that as in the past these establishments will continue to admit only those students in groups C or E who have obtained distinctions in the baccalauréat examination.

Holders of the technician's baccalauréat may be admitted to the faculties, the IUT or the university institutes (particularly the institutes for political studies) on the strength of their past scholastic record or, where appropriate, after taking an examination.

C) Admission to the University under Social Up-grading Schemes

- A special entrance examination will be introduced for the IUT, since the aptitudes required for these courses are not the same as for the faculties.
- Faculties had for some time organised admission examinations for candidates who did not have their baccalauréat. Procedures have, however, been simplified under the implementation of the Act on Higher Education.

These examinations are intended for candidates who have done their military service and for those without their baccalauréat, subject to certain conditions regarding age. The modalities at present in force are in accordance with the Order of 14th September, 1959, which simplified the former provisions concerning university admission of those without the baccalauréat. These new provisions, which will be implemented from the beginning of the 1970 school year, are as follows: candidates aged 21 at 1st October, in any year, who have had two years' gainful employment, and those aged 24, may sit the entrance examinations for the faculties which are, moreover, open to foreigners.

Instead of five separate examinations for five types of faculties, there are now only two types of examination:

- a literary examination for the humanities, law and economics;
- a scientific examination for science, medicine, dentistry and pharmacy.

This examination consists of only three tests instead of five. It is organised by each university on the basis of a national curriculum which may be studied through the Centre National de télé-enseignement (National Correspondence Course Centre).

IV. LONG UNIVERSITY EDUCATION

Principles governing the new organisation of university education

The population increase and the greater freedom of access to higher education have made it necessary to rethink the traditional functions of the university. The purpose of the recent reforms has been to reorganise universities and introduce new functions to meet the needs of the economic system.

a) The two traditional functions of universities

- The primary (and for a long time the main) function of the faculties of humanities and of sciences in particular was to train teachers for secondary schools. This was a purely academic education and included no training in teaching methods properly speaking. Where such training existed, it was provided by regional teacher training centres outside the universities (CPR).

- The second function was the training of researchers, particularly in the faculty of science. This second function developed rather late. As scientific research was long unrelated to economic needs, university research tended to be a marginal authority confined to the Collège de France or the Ecole pratique des hautes études (specifically in economics and the social sciences) or the Centre national de la recherche scientifique (CNRS). For this reason and despite a real expansion in the training of university researchers, research structures and laboratories (owing to the activity of outside bodies) have not been brought fully up to date.

- Moreover, a certain confusion has developed within the educational structure between the two functions of teaching and research. The gradual blurring of the distinctions between one category of staff and another, due to the severe shortage of teachers during the '60s, led many teachers to give up secondary school teaching and turn to higher education by way of research. The fact that university education continues to be academic and not professional, and that the terms of the contract between the university and its customer, the secondary school system, are not observed, partly explains why the secondary school system is in a state of crisis as the training of teachers is no longer in line with the real needs of the lycées. This failure to rethink the aims of the two traditional functions of university education has led in effect to their confusion, and the present reform is an attempt to straighten out the situation.

b) Rethinking the two functions of university education

One of the objectives of the reform has been to draw a line of demarcation between teaching and research by instituting two specific and differentiated courses of training after a preliminary common stream (the assumption being that the intellectual requirements for teaching and research are different). The recent reform of the science, humanities, and medical curricula was an effort attended with varying degree of success to find a solution to this problem. Although the acute shortage of teachers in the secondary school system has now been overcome, demand will continue to be heavy if the principles of reform are to be given real effect at this level. Similarly, the development of research is considered to be a high-level national objective and it was felt that the fresh prospects offered in this field by the growth in the number of students should be turned to account. These objectives involved the planning of detailed syllabuses for each stage of study and new teaching methods and communication techniques.

c) Higher education and professional training

This is a very new departure although some effort was made in the past to meet the needs of industry and give research workers a good training by introducing shorter doctorate courses (Doctorats de troisième cycle). But the present problem of access to the university has no meaning unless it is related to the final purpose of university education. The policy adopted cannot be divorced from a specific conception of the long-term development of society if there is not to be a waste of talent because students are allowed to stray into blind alleys or acquire useless knowledge. There must be a purposeful relationship between university training and subsequent professional life. The reforms described below have tackled this problem with varying degrees of success. The faculties of law and economics have always been more closely geared to professional life owing to the existence of various post-graduate courses and qualifying diplomas(1).

The far-reaching reform in the faculties of medicine has paved the way towards a solution which seems to meet requirements despite the difficulties involved in putting it into effect.

The humanities faculties seem to be lagging behind the others.

The faculties of science appear to be better armed; the new master's degrees (maîtrise) and the shorter doctorates (troisième cycle) offer a training which largely meets the needs of industrial research laboratories.

A) Higher Scientific Studies in 1966 (Science Faculties)

The Decrees of 22nd June, 1966 laid down the structures of the first two cycles of the degree course. The new system came into force in 1966 at the beginning of the university year.

1. The first cycle

This is a basic training course lasting two years and leading to a university diploma in science studies (DUES).

a) Choice of section

This stage offers four optional subjects (the qualifying requirements for registration in each section are dealt with in III of the present chapter):

- mathematics and physics (MP) (with mechanics in the second year);
- physics and chemistry (PC) (with mathematics in the first and second years);
- chemistry - biology (CB) } The first year of these two sections consists of a
- biology - geology (BG) } common syllabus (with mathematics, physics, chemistry, cellular biology and geology). In the second year, the BG section includes physics and chemistry among other subjects.

b) Teaching arrangements

This includes:

- theorectical training in the form of lectures;
- practical training which varies from one discipline to another but consists of regular tests, the explanation of theoretical points, practical exercises, laboratory experiments and field work. Attendance at exercises and practical classes is compulsory.

c) Examination arrangements

Access to the second year of this basic training course is by examination but it is possible to change sections between the two years. Possibilities of repeating a year are more limited than previously, students being entitled to only one such opportunity

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1) Example: CAPA:Certificat d'aptitude à la profession d'avocat.

over the two-year period(1). This first cycle leads to the DUES examination. There are two examination sessions and the arrangements are the same for each section and for each year.

The examination consists of written papers in which the student is required to reach a certain standard, followed by oral and practical tests. A pass in the practical tests in the CB and BG sections is also required. Students therefore have to pass two examinations. A pass at one examination session is taken into account for the second.

In the course of the year the faculty may organise partial written, oral and practical examinations on the results of which successful students may be exempted from the end-of-year examinations. Students with an average mark of 10 for the year may also be exempt from practical tests.

2. The second cycle

This is a more thoroughgoing course leading to the licence degree after one year or the maîtrise degree after two years, no student being allowed to take both the licence and the maîtrise at the end of the first year [see c) below]. The second cycle is open to holders of a DUES or an equivalent diploma. Teaching arrangements are the same as for the first cycle.

a) Teaching degrees (Licence d'enseignement). These can be prepared in one year; they embody the training acquired in three years of higher education and qualify holders for teaching posts in secondary schools. Contrary to the situation in humanities faculties, this licence course is fundamentally different from the maîtrise course [see c) below]. The idea is to pick out fairly early those with a bent for teaching and those with a gift for research. There are three types of Licence d'enseignement in science:

- mathematics;
- physics and chemistry;
- natural science.

b) The maîtrise degree takes two years. The training is more research oriented. There are 12 types of maîtrise:

- mathematics;
- data processing techniques;
- mathematics and its fundamental applications;
- applied mechanics;
- physics;
- chemistry;
- physics, chemistry;
- bio-chemistry;
- animal biology;
- plant biology;
- genetics and physiology;
- geology.

It is always possible to create new types of applied maîtrise in any faculty.

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1) Special examination arrangements for students who are employed are discussed later in this report.

Each maîtrise requires four certificates of higher studies (CES).

C1 and C2 certificates are taken in the first year and C3 and C4 certificates in the second year.

The organisation of the various types of maîtrise is, however, fairly rigid. Students are entirely free to choose one CES(1) but the others must be prepared in a set order. This rigidity is designed to remedy the previous state of confusion and counterbalance in what is still a very flexible system.

c) Guidance in studies

Once the DUES has been passed candidates are given guidance on their further course of studies. This advice which is given either by the DUES examining board or by a special panel is not binding but merely indicates the courses for which the candidate would seem to be best suited as revealed by the abilities shown in his previous studies and his DUES results. The possible courses are:

- the maîtrise;
- the licence;
- the IUT leading to a university degree in technology (DUT) or, as a temporary step and where no IUT has yet been instituted, the Diplôme d'études supérieures de technologie(2) (DEST) which is obtained by taking a CES in technology and doing nine months' practical training in industry or in a laboratory.

Apart from the fact that the choice of orientation subsequent to the DUES continues to be very flexible, the licence course is not a blind alley. If they wish, and if their licence results are promising, students may proceed to the maîtrise. In this case they are excused one of the four CES certificates and may take the other three simultaneously at the end of the year.

Moreover, holders of the maîtrise may obtain the equivalent of a licence after an additional examination in the subjects required for the particular licence. In arts, however, students who have completed a first year of study for the maîtrise are considered to have automatically attained licence standard.

3. The third cycle

This stage of study is devoted to research and, although procedures may differ, always involves the submission and defence of a thesis. Doctorates in science are more numerous and more varied than in the humanities. Candidates in the first year of the third cycle now have to take the Diplôme d'études approfondies (DEA).

a) The Doctorat de troisième cycle (shorter doctorates) were organised by the Decrees of 20th July, 1954, amended by the Decree of 8th January, 1955. Candidates are required to have a thorough knowledge of their subject (DEA) and take an oral examination consisting of questions and practical tests. At the end of their period of study they are required to submit and defend a thesis leading to the award of a doctor's degree in the particular subject they have chosen. Since 1968, admission requirements have become less strict and admission is the responsibility of a special commission within a particular establishment.

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1) Certificat d'études supérieures.

2) Introduced in 1961 to meet the needs of industry.

b) Doctorat d'état ès-sciences (state doctorate in science)

The Doctorate ès-lettres is the highest university degree and qualifies its holder for registration on the list of teachers available for posts in higher education. The Doctorat d'état requires an average of four years' work. Since the reform, candidates must be holders of the maîtrise. They are required to submit and defend two theses:

- a main thesis on a subject approved by the faculty, representing an original contribution to research;
- a supplementary thesis which is a short monograph on a subject set by the faculty.

The Guidelines Act of 1968 provides that the conditions governing the writing and defence of state doctorate theses will be the subject of a reform now under study, but a certain number of measures will be put into effect immediately:

The supplementary thesis will not be required for a state humanities or science doctorate.

The doctor's degree will be awarded to candidates successfully defending a single thesis or a collection of individual or joint work whether already published or not.

At least half the persons making up the examining board must be from outside the establishment to which the candidate belongs; they may include persons chosen for particular qualifications. The same person may not direct more than twenty theses at once.

It will no longer be necessary for humanities theses to be printed prior to presentations and the printing costs will not be automatically subsidised by the Higher Education Directorate.

A minimum period of six years must elapse between registration of the subject and the defence of the thesis, and four years between the defence of a third cycle doctorate thesis and that of the state doctorate.

c) The Doctorat d'université

This takes one or two years to prepare and does not entitle its holder to teach. It is open to holders of the licence and calls for the submission and defence of a thesis on a subject relating to any discipline taught in the faculty.

d) Diplôme d'ingénieur docteur (Doctorate in engineering)

This doctorate is, by definition, awarded by science faculties. Candidates are required to have graduated in engineering after which they obtain the appropriate Diplôme d'études and submit and defend two theses embodying the results of their research on the application of fundamental science to technology.

The originality of the reform in higher science studies is the definite but flexible separation between training for teaching and training for research, on the one hand, and the existence and development of certain types of training related to the needs of industry and embodied in certain types of shorter doctorates (Doctorat de troisième cycle) and the degree of Ingénieur docteur, on the other.

B) Re-organisation of Humanities Courses in 1966 (Humanities and Social Science Faculties)

The Decree of 22nd June, 1966, considerably changed the structure of the faculties of humanities and social sciences. The new regulations came into force in 1966 as from the beginning of the academic year(1). There are now three cycles of study. Students wishing to register at the university must hold a baccalauréat (certificate awarded on the successful completion of secondary schooling) or an equivalent certificate.

1. First cycle

This is a basic course lasting two years and leading to the Diplôme universitaire d'études littéraires (DUEL).

a) Choice of section

As from their first year, students may choose one of nine sections:

- Classical literature (with French, Latin, Greek).
- Modern literature (with a modern foreign language and an initiation into Latin and a second optional foreign language).
- Modern languages (with two modern languages and an initiation into Latin).
- History (with geography and an optional subject: Latin, Greek or a modern language).
- Geography (with history, one modern language and an initiation into economics and auxiliary geographical sciences).
- History of art and archaeology (with history, one modern language, an initiation into literary sources and æsthetics and a second optional modern language).
- Philosophy (with mathematics - theory of sets and algebra - one modern language and an optional second language or a dead language).
- Psychology (with sociology, mathematics, English and biology at the faculty of science).
- Sociology (with psychology, mathematics and statistics, one modern language, demographical studies and ethnology).

However, certain faculties may be authorised to organise other sections, e.g. data processing techniques. It would seem that the large number of sections makes it impossible to discard the previous individualistic structure which still exists at all stages. This is why, in connection with the 1968 Guidelines Act, a Circular dated 10th April, 1969, proposes the formation of four sections:

- literature;
- modern languages;
- history and geography;
- philosophy and social sciences.

This proposal is an attempt to re-arrange the sectors of study and create a certain measure of polyvalence as compared with the nine sections of the 1966 reform.

Nevertheless, given the educational autonomy called for in the Guidelines Act, this plan is simply an indication of what might be. A certain time must elapse before it is known what decisions have definitely been taken by the education and the research units of the new universities.

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1) Interim arrangements were made to enable students who had started a course to switch from one system to the other.

b) Teaching arrangements

The teaching arrangements in each section consist of (1) theoretical courses in the form of lectures and (2) supervised study sessions in which students read papers and do more exercises than was the practice under the former system, thereby obtaining a training in individual work. Furthermore, there are certain disciplines in which practical sessions are organised, particularly in psychology and sociology. A strict check is kept on attendance at classes and practical sessions which are compulsory.

A distinction must be made here between the sections leading to the traditional Licences d'enseignement (teaching degree) i.e. philosophy, classical literature, modern literature, history, geography and modern languages, and those leading to specialised degrees (psychology, sociology, history of art and archaeology). In these special disciplines most faculties will not be authorised to go beyond first cycle level. Although philosophy and sociology are more or less associated in the first year because of the system of options, the first cycle course in history of art and archaeology is strictly confined to the subjects concerned. The new regulations indicate that the intention is not only to introduce new structures but also to re-organise the curricula and rethink the pedagogical approach.

c) Examination arrangements

i) Passing from first to second year

This depends on an examination, the procedure for which is modelled on that of the DUES at the end of the first cycle of the science degree course [see ii) below]. Under the regulations it is possible to switch from history to geography and also between philosophy, psychology and sociology when moving from the first to the second year. Students wishing to switch must obtain individual permission from the head of the faculty and are required to take an additional test at the end of the second year.

ii) The DUEL

This diploma is taken at the end of the second year when two examination sessions are held, one in June and the other in September. In the sections leading to the traditional teaching degrees the examination consists of written papers in which students must achieve a certain pass mark, and oral examinations. Students who pass the written examination in the first session but fail in the oral are not required to pass the written examination at the second session.

The examination procedures differ occasionally from one section to another in the case of the specialised maîtrise examinations. In psychology, there are both written and oral tests. Candidates who pass the written tests but fail in the oral can take the oral again at the second session. There is a special oral test for candidates who obtain an average of between nine and ten in each group of written papers. In sociology, there is a written examination only.

In all cases the written papers in each examination may be replaced by partial examinations taken at intervals throughout the year and also by oral examinations.

iii) Case of employed students

Facilities have been provided to enable students who are working to attend this course which has become more difficult owing to the limitations on repeats. Working students are allowed two years to prepare for each examination but, apart from this concession, they are subject to the same requirements as regards the number of times they are allowed to fail the examination, i.e. once in the two-year period. This system also applies to science students.

2. The second cycle

This is a more thoroughgoing training accompanied by an initiation into research. It offers two rather different courses: one leading to the licence with a bias towards teaching and the other to the maîtrise with a bias towards research. The possibility of changing course between the two cycles may be granted to individual students by the dean of the faculty.

a) The licence: This is awarded after one year's study. The requirements are either a Certificat d'études supérieures (CES) in studies relating to the licence and a maîtrise CES (research oriented) or else two maîtrises CES.

There are two types of licence, i.e. the teaching licence in six disciplines (classical literature, modern literature, modern languages, history, geography and philosphy) and the licence libre awarded to students who hold a licence CES and a maîtrise CES in any subjects of their choice (the choice is not free as regards the teaching licence).

b) The maîtrise takes two years to prepare and the requirements are either two maîtrises CES and a thesis prepared over two years or four maîtrises CES. There are, in fact, three different types of maîtrise:

i) Six teaching maîtrises to qualify for posts in secondary schools. They are awarded after the licence to students who take another CES and do a period of study and research. The first year CES is the same as that for the licence(1).

ii) Seven maîtrise degrees in experimental disciplines (linguistics, physical geography, human geography, logics, psychology, education and sociology) for which four CES are required.

iii) Specialised maîtrise degrees for which two CES certificates and a thesis are required. A list of the maîtrise degrees which each faculty is authorised to award will be determined annually in a Decree by the Minister of Education on the proposal of the faculty as a whole.

When a maîtrise degree requires a thesis the candidate must first obtain the approval of the professor or senior lecturer supervising his research and the permission of the dean of the faculty to register. If the maîtrise degree requires four CES, the first two obtained at the end of the first year will count as the equivalent of a licence. Only in very special cases will a candidate be allowed to sit for three maîtrise certificates at the end of the first year.

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1) Recruitment of teachers for secondary schools is at two levels: the licence plus the CAPES and the maîtrise plus the agrégation. Holders of the agrégation take the terminal classes and the preparatory classes for the Grandes Ecoles.

c) Arrangements governing the choice between the licence and maîtrise and the possibility of switching from one course to another

It should be noted first that the distinction between the licence course (teaching) and the maîtrise course (research) is very slight in humanities faculties: in both cases the certificates required are highly specialised. Nevertheless, the system governing a student's choice between the licence and the maîtrise on completion of first cycle studies is as follows. To register directly for the maîtrise (only when the maîtrise requires a thesis, i.e. in the case of the teaching maîtrise and the specialised maîtrise) candidates must obtain the approval of the professor who is to supervise his work on the thesis and also the permission of the dean of the faculty.

It should be added that neither the student who is advised to take a licence course (when he has not received permission to write a thesis) nor the student who has personally chosen that course is likely to find himself in a blind alley. Although no student is allowed to register in the same year for both the licence and the maîtrise, certain students who go for the licence may obtain the maîtrise once they have passed their licence and obtained the approval of their professor or the senior lecturer supervising their studies and research. In this case, the maîtrise is awarded in one year during which they prepare a second maîtrise CES and write a memorandum on their studies and research. Accordingly, students who have chosen the licence may, at the cost of an extra effort, obtain the maîtrise four years after the baccalauréat at the same time as students who have been studying for the maîtrise directly.

3. The third cycle

This is entirely devoted to research. It has been remodelled to some extent in line with the new first and second cycles(1).

There are three kinds of doctorates: the Doctorat de troisième cycle, the Doctorat d'état ès-lettres and the Doctorat d'université:

a) The Doctorats de troisième cycle or Doctorats de spécialité were instituted by the Decree of 19th April, 1958, and re-organised in September 1967. They were awarded after at least two years' study in the third stage and the preparation of a thesis. Candidates wishing to take this course must first have passed their maîtrise. They then join a working group under the direction of a research supervisor (professor or senior lecturer at the faculty, or professor at one of the leading institutes of university standing or research supervisor at the CNRS).

First-year students cannot start their second year without permission from the dean of the faculty and their research supervisor given on the strength of their research and general work. At the end of their second year they defend their thesis before a board which either awards them the doctorate, postpones the award or decides that their thesis is equivalent to the supplementary dissertation for the Doctorat d'état ès-lettres. Since 1968, admission requirements have become less strict, as in the third cycle for science studies.

However, many observers consider that the level of the Doctorat de troisième cycle is inadequate and involves the danger of early specialisation which is unlikely to provide an adequate basis for assessing the student's cultural standing in his own discipline.

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1) The old Diplôme d'études supérieures (DES) which was required before candidates could sit for the agrégation has been discontinued since the institution of the maîtrise.

This assessment, which is made at the end of the first year of the third cycle in the Faculty of Science in the form of the high-level Diplôme d'études approfondies (DEA), was only adopted for the humanities as an experiment, in 1967, at the beginning of the academic year at the Ecole pratique des hautes études, Section VI (economics and social science). Its extension to all sections of the third cycle in humanities seems most desirable.

b) The Doctorat d'état ès-lettres

This degree was introduced by a government Decree on 28th July, 1903, amended by the Decreee of 23rd July, 1953, and enabled its holders to be registered as potential candidates for posts as senior lecturers (Maître de conférence) and eventually for professorships. Candidates for the doctorate must hold the licence and prepare two theses:

- a main thesis in French;
- a second supplementary thesis which is a kind of monograph and may be written in an ancient or modern foreign language.

The subject and plan of these theses must be submitted to the faculty for approval. The preparation of a Doctorat d'état in humanities is often spread over a very long period (an average of ten years) and no limit has so far been placed on the time taken. A plan to reduce the period to five or six years is under consideration. It would also be desirable that this doctorate should be prepared as part of a team effort rather than as a one-man assignment, since this is now a thing of the past.

The changes made in 1968 to the thesis requirements for science are valid also for the humanities (see above).

c) The Doctorat d'université

This type of doctorate in special subjects, which was created by the Decree of 8th February, 1954, is designed for foreign as well as French students. All candidates must hold the licence degree in humanities or an equivalent foreign qualification. The doctorate takes two years except in the case of agrégés for whom the period is reduced to one year. Foreign students are required to pass a test in French as evidence of their ability to handle the language.

Candidates are required to take an oral examination on the techniques and methods of research and a test on their general and more detailed knowledge of the special subject they have chosen. They also have to submit and defend a thesis. In no case, however, can the thesis for a Doctorat d'université be considered as the equivalent of a supplementary thesis for the Doctorat d'état.

Initially, the aim of the reform of the humanities courses was to make a sharper distinction between training for secondary school posts and training for research and higher academic posts. However, the enactments based on this initial legislation, by trying to take account of a very important development in France, i.e. the tendency for the most highly qualified secondary school teachers to seek posts in higher education, have had the opposite effect. By making such transfers easier they have considerably weakened the original purpose of the reform. Nevertheless, the reform does at least have the merit of making it more difficult for students to repeat, thereby cutting down student wastage which had grown to such proportions that it had begun to retard higher education and become a social problem. It has also made way for the development of new disciplines in the aesthetic and sociological fields, although unfortunately they are so highly compartmentalised as to raise doubts about their professional utility.

C) Medical Studies (Medicine, Pharmacy and Dentistry)

The reform of medical studies in the broad sense of the term (medicine, pharmacy, dentistry) began in 1958, before that of the humanities and sciences. Changes and experiments followed one another within the new system until 1966. The problem re-emerged in 1968 at the time of the Guidelines Act. Although everyone is now acquainted with the broad lines of the new machinery, it is nonetheless transitional. In order to lighten an already rather complex document, the structure of these studies before 1958 is described in Annex VIII.

1. Reasons for the inadequacies

The inadequacies of the medical training system were shown up even more clearly by certain external developments.

The "internal" inadequacies were numerous, particularly as regards medical studies proper where there was a marked lack of co-ordination between the academic and the professional aspect of the course; the doctorate in medicine is not only a university degree but also a licence to practise. Despite this fact, the bulk of the training course was concentrated at the university where the departments of medical science or clinical medicine were a realm of their own far removed from the day-to-day practice of medicine. For the great majority of students the practical period of hospital attendance in their sixth year was insufficient and was spent at non-university hospitals, ill-equipped for teaching. It was this that gave rise to two parallel types of training:

- a theoretical and practical university training given by the professors and centred on the basic sciences;
- a theoretical and practical hospital training provided by the hospital medical staff and, in practice, reserved for an elite recruited by a succession of competitive examinations but which, in fact, was the only practical way of learning the profession.

This dual approach was reflected in other ways: the distance between university and hospital involved considerable loss of time, basic courses were often too abstract, there was a lack of balance in the time spent on the two types of training (basic science studies being concentrated on the first few years whereas clinical training took up more and more time as the course proceeded). This led to competition between the two types of training. From the very first year students were faced with the necessity of passing their faculty examinations and at the same time preparing themselves for the competitive hospital examinations on which they concentrated all their efforts. As a result, hospital and clinical medicine were given priority at the expense of biology and the fundamental research sciences. This gave rise to a paradoxical situation. In a system whose de facto if not de jure basis was the hospital, too many prospective doctors received an inadequate clinical training (if they were not interns or externs) in hospitals which were both unprepared and ill-equipped to receive them, while the few who might have been able to go into research spent most of their time preparing for competitive hospital examinations to the neglect of the fundamental sciences.

The duality of the training, the corresponding dispersion of lectures and doctors, and the part-time basis of hospital studies were highly prejudicial to the development of biological and medical research. These two types of fundamental and applied research were isolated and ill-organised as the system of medical training gave priority to clinical research. But as the latter lacked adequate equipment, it was based on the anatomical and clinical methods used in the hospital service and the corresponding faculty department and was in most cases pursued in relative isolation. But medical research has become more and more complex and, if it is to be successful, needs to be co-ordinated at all stages. These may be summarised as follows:

Ist stage: clinical observation and research;
2nd stage: laboratory research in physiology;
3rd stage: laboratory research in chemical analysis;
4th stage: laboratory research in synthetic chemistry;
5th stage: laboratory work in microscopics, optics and electronics for therapeutical application. Integrated research of this kind calls for co-ordination with basic pharmaceutical research which is often not forthcoming.

This pattern of internal inadequacy and lack of co-ordination assumed explosive proportions under the pressure of external factors arising from general economic and social trends. The growth in the population and the rise in the rate of enrolments emphasized the dispersion of academic and hospital supervisors and the resulting inadequacy, both quantitative and qualitative, of the teacher/student ratio. These deficiencies had their repercussions on the ability of the hospitals to cope with the growing demand for treatment from the community with the result that the increasing cost of treatment and its impact on the French social security and health insurance system has now become a nationwide social problem.

It was the general realisation of these problems which led to the government Order of 30th December, 1958,on the institution of university hospital centres, the reform of medical training and the development of medical research. This Order was followed by a number of other regulations reflecting a general plan of which the main points are as follows:

- reform of the medical syllabus to bring academic training into line with professional requirements and provide a sound practical training for all students and an earlier and better training for research specialists;
- emphasis on the interdependence of the various medical professions by integrating pharmacy and dentistry more effectively;
- material and administrative arrangements to ensure a more effective integration of university and hospital functions in university hospital centres (CHU) where treatment, training and research are given equal status;
- re-organisation of medical research by establishing a new pattern of training integrating research, teaching and ward experience and associating the different types of specialists in joint laboratory sessions.

We shall not deal with these last two points here but shall concentrate our attention on the actual teaching reforms. However, a complete account of the situation showing the complexity and interdependence of the problems at issue is given in Annex IX, which deals with the organisation of the CHU and the development of medical research.

DIAGRAM VII

DURATION OF MEDICAL STUDIES UNDER RESPECTIVE REFORMS(1)

	System in 1934	System in 1960 (Decree of 28.7.1960)	System in 1963 (Decree of 25.11.1963)	System in 1966
1. Faculty of Science and Faculty of Medicine	PCB (or equivalent)	Examination A. and Examination B. (or equivalent)	CPEM (or equivalent)(2)	CPEM (or equivalent)(2)
2. Faculty of Medicine	1st year	2nd year	1st year	1st year
3. Faculty of Medicine	COMPETITIVE EXTERNAT EXAMINATION	EXTERNAT(3)	EXTERNAT(3)	EXTERNAT(3)
	2nd year	3rd year, 5th and 6th semesters	2nd year	2nd year
4. Faculty of Medicine	3rd year	4th year	3rd year(5)	3rd year
5. Faculty of Medicine	4th year	5th year(4)	4th year(5)	4th year
6. Faculty of Medicine	5th year	6th year(4) (including one semester of practical work in hospital)	5th year (six-month practical course beginning on 1st April for students who began under the 1960 system(4): nine-month course as from 1st July)	5th year
7. Faculty of Medicine	6th year (practical course in hospital)			6th year (practical course in hospital, one year)
	INTERNAT	INTERNAT	INTERNAT	INTERNAT
	DOCTORAT	D'ETAT	EN	MEDECINE

Source: "Les Centres hospitaliers universitaires" notes et études documentaires, La Documentation Française, 15th March, 1967, No. 3373.

1) Not including Certificats d'études spéciales.

2) CPEM: Certificat préparatoire aux études médicales.

3) The externat examination has been discontinued.

4) The 1960 system does not apply to these points.

5) Corresponding to the fourth and fifth years of the amended 1963 system.

2. The reform of medical education: Decree of 28th December, 1960

This reform affected the teaching of the fundamental sciences and the development of hospital careers(1).

a) New basic science course

The regulations now in force are as follows:

Students holding the baccalauréat and wishing to take up medical studies register at the faculty of science for the Certificat préparatoire aux études médicales(2) (CPEM). This certificate is taken at the end of a year of fairly advanced theoretical work (the standard of which was lowered in 1966). Most of the teaching is done at the faculty of science. Successful students then register at a CHU for six years where they pursue their studies along the following lines:

- lectures accompanied by practical sessions;
- supervised study;
- clinical training.

The whole of the sixth year is devoted to practical periods for students who are neither interns nor externs while the others have direct contact with hospital patients. At the end of this period students submit and defend a short thesis or monograph before a board of professors and, if successful, receive the degree of Doctorat d'état en médicine.

These reforms have enabled considerable progress to be achieved: the increase in the number of dual function staff and the extra hospital experience provided will give the general practitioner a better basic training. Further favourable factors are the improvement in the teacher/student ratio and the reduction in time wasted commuting between hospital and faculty.

b) Re-organisation of hospital careers

There are two underlying principles:

- the merging of hospital and university careers through the creation of full-time posts in CHU's for which recruitment is no longer on a regional but a national basis;
- for other hospitals of varying size, recruitment on a regional basis of doctors who do not intend to pursue a teaching career. These doctors may either take up full-time employment in regional or local hospitals or open private practices outside the hospital at the end of their internat course.

To put these principles into practice meant reforming the system of competitive examinations which was too abstract and sometimes too selective. The aim was to obtain a sufficient number of students for practical work in hospital and channel them at an earlier stage towards an academic career in the CHU's or a professional career in the regional hospitals, or into private practice.

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1) These two aspects, although considered separately for convenience, are really closely knit components of a single training system,as will be seen from paragraph b) concerning the CHU.

2) Decree of 24th August, 1963.

i) At the outset the externat competitive examination was discontinued and replaced by a record of the student's marks in his first year, certain subjects on the syllabus being given a higher weighting than others. In this ways the externat has been made more accessible and the strain of preparing a competitive examination is avoided. The externs carry out their duties for two years in a CHU or a CGR (regional hospital centre).

ii) Although the externat examination has been discontinued, the internat has been maintained. It is the only competitive examination which has been retained as such and is taken at the end of the fourth year. There are four kinds of parallel internat:

- a local internat for small local hospitals;
- a regional internat for non-university regional hospital centres (CHR's);
- a university internat to fill posts in the university-linked CHU's. This university internat is a competitive examination open to all the CHU externs and places are filled on the strength of the candidate's rating at the examination;

- a national internat examination which determines the academic functions of the successful candidates and gives them access at the same time to medical and surgical careers in the CHU's. It is this competition which ensures the combination of an academic and a hospital career by recruiting the appropriate staff on a national rather than a regional basis. But in view of the present grading system for hospital and university staff, only a very small percentage of interns and Chefs de clinique can hope to secure later appointments to posts as full-time agrégés in medicine, surgery and other disciplines. It was therefore necessary to arrange for an early selection to enable unsuccessful candidates to switch to private practice or appointments in regional hospitals. For this reason the national internat examination takes place immediately after the university internat examination on the same programme and in the same year so as to reduce the need for "swotting". Successful candidates at this examination are awarded the title of "Résidents des hôpitaux universitaires de France". It is considered that about one-third of the total of university interns for any particular year obtain this appointment.

The award of the qualification of resident is the basis of a complete hospital/university career leading to the agrégation. Resident interns work in hospital for a period of four years. At the end of this period they may, at their own request and on the proposal of the hospital services, be appointed Chef de clinique for a further four years by the Ministries of Social Affairs and Education. The Chefs de clinique may keep their appointments as long as they do not refuse a full-time post as doctor in a CHR where residents have first choice. However, after only two years of duty a Chef de clinique may take up a full-time established civil service post as Maître assistant in a CHU.Proposals for appointment to these posts are made by the faculty assembly on the strength of the qualifications of the doctor concerned.

The residents provide a pool from which Maîtres de conférences and agrégés are appointed. Candidates for these posts have to meet the following requirements:

- Their names must appear on a list of eligible candidates drawn up each year by a board, one of the members of which is chosen by the candidate concerned.

- They must have three years' experience as a Chef de clinique or Maître assistant.

- They must be at least 35 years old. Candidates may have graduated from the Institut national pour la santé et la recherche médicale (INSERM, see above) of the CNRS or they may be consultants (Médecins des hôpitaux) at regional or private hospitals. Recruitment is therefore on a very broad basis. From the list, the board selects candidates which it wishes to appoint as Maîtres de conférence or agrégés. Candidates are selected on the strength of their qualifications and the work they have done. They first have to give an oral exposition followed by a discussion and defend a short thesis or monograph. As there is no limitation on the number of candidates accepted, the board is free to decide what standard to set. The Maîtres de conférence and the agrégés recruited are appointed to a faculty of medicine and are put in charge of treatment, training and research in a particular department for six consecutive years in order to ensure the continuity and team work essential to any research activity. The new organisation of full-time hospital careers thus makes for greater flexibility and provides a structure and chain of command more consistent with the requirements of the community. At the same time, hospitals are better staffed and medical students receive a better training.

c) Structure of training for research

To complete the reform, the problem of medical research had to be thought out anew. It was essential to establish training structures and to integrate the research function into hospital work. This second aspect of the problem is dealt with in Annex IX.

Introduction of a course of study and research in human biology

Under the Decree of 6th August, 1960, this is divided into three parts:

- The first part consists of the syllabus for the Certificat préparatoire aux études médicales together with mathematics, statistics, physics and chemistry. There is an examination in each of these subjects. A pass at the CPEM and the other three examinations leads to the award of the Certificat préparatoire aux études de biologie humaine. This first part is organised at faculties of medicine and in special sections of the faculties of science.

- The second part of the course, which runs parallel with the medical course as from the third year, consists of a maîtrise and other studies involving a six-month practical period of laboratory work. Candidates for the maîtrise must have three Certificats d'études supérieures de biologie humaine belonging to the same group, a certificate in biological technology issued at the end of this period of study and the degree of Docteur en médecine.

- The third part consists of the preparation of the Diplôme d'études approfondies (DEA) in human biology awarded to candidates who hold the maîtrise, the Certificat d'études supérieures préparatoire au DEA and have defended a monograph submitted after a two-year period in an approved laboratory. After the DEA candidates submit their theses for the Doctorat d'état en biologie humaine. The second and third parts of the course are organised at faculties of medicine.

The guiding principle of the reform in medical studies is common to all recent reforms in higher education, i.e. to relate training more effectively to professional life and to provide a flow of candidates for research. These essential changes are encountering considerable difficulties. They have drawn attention to the inadequacy of the equipment of public hospitals and to the need for a solution to many other problems:

- administrative problems involving the internal management of the CHU's which are subject to conflicting interests and obtain their funds from a variety of sources;
- problems relating to the staffs of university hospitals and the gradual establishment of the full-time system;
- problems arising from local and regional disparities in university and hospital requirements for equipment and staff.

The essential aim of the 1958 reform /effectively introduced in 1960, when the PCB(1) was abolished7 was systematically to co-ordinate hospital training and theoretical study so that all doctors would receive practical experience. Pharmacy and dentistry training were changed along the same lines as medical studies. But, as yet, a comprehensive approach to all medical careers is not envisaged as such, and the pattern of medical studies has not been radically altered. This less pragmatic and more structural aspect of the problem was first dealt with in November 1968.

3. New organisation of medical studies and health careers

Eight working parties were set up in December, 1969, to establish ways in which medical studies could be changed in order to comply with the 1968 Guidelines Act on Higher Education and conform to the measures already taken in that year: a system of externs for all students in the form of hospital work, integrated training and independence of the UER's (teaching and research units).

a) The 1968 reforms

Since 1968-69, medical studies have consisted of three successive cycles:

i) The first cycle (Order of 18th February, 1969)

The first two-year cycle, called the preparatory course for medical studies (CPEM), has a triple function:

- to make studies more attractive;
- to give equal opportunity to humanists as well as scientists;
- to offer retraining possibilities through fairly rigorous selection at the end of the first year.

The first cycle consists of three sections (A, B, or C), to accommodate the scholastic background of the candidate:

- Section A for holders of scientific baccalauréats (C, D or E);
- Section B for those with humanities baccalauréats (A, or B);
- Section C (which is also the first year of the human biology study and research course) for students with scientific baccalauréats (C, D, E).

Individual exemptions may be granted by the dean on consideration of the candidate's school record. In the event of refusal, the candidate may take an oral examination to check his aptitude and knowledge. This section obviously includes intensive training in mathematics, physics and chemistry.

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1) Certificat d'études physiques, chimiques et biologiques - certificates in physics, chemistry and biology.

The first cycle is for acquiring a grasp of the fundamental sciences. It is both theoretical and practical, and is divided into credit points of 50 teaching hours each.

The new first cycle of medical studies is the only one to have been implemented so far. Its administrative structures are not yet fully set up; an inter-ministerial working party is responsible for giving them final form.

The second and third cycles are being fully re-organised under the supervision of another inter-ministerial working party.

Some of the possible characteristics of these two cycles can already be described.

ii) The second cycle

Medical studies proper would start with a second cycle basically devoted to pathology. The essential characteristic of this cycle is its general applicability, enabling not only general practitioners but also research workers, teachers and specialists to be trained. But in addition to this polyvalence, a national end-of-course test will be needed, paving the way to a single national diploma and conferring the right to practise, so that equivalences are possible with foreign diplomas. This national test would cover all the knowledge acquired during the second cycle and take the form of clinical files with multi-choice questions. Depending on the results of this examination, which would terminate the continuous checking of knowledge organised by each UER, students would be sorted into "certificated" and "authorised to apply for a post of assistant physician or surgeon". This diversified training would have 27 obligatory certificates and at least 3 optional certificates. All these certificates would have to be earned to qualify, together with the successful conclusion of the three years of practical training (six periods).

Another feature of the second cycle is the general extension of hospital duties to all students (previously compulsory only in the sixth year or reserved from the sixth year for the externs only) on a half-time basis during the first three years of the cycle. At the same time only fourth, fifth and sixth year students will receive payment equivalent to that of externs even though third year students may have the rank of hospital-duty students; the criterion adopted here is the level of studies and not the service rendered. These hospital training periods may, on request, be supplemented by extra-hospital training in out-patient departments or maternity and infant welfare clinics with practitioners or in the form of the care of patients treated at home; such training will enable would-be doctors to come face to face with recurrent medical problems not encountered in hospitals and introduce them to the social aspects and effects of illness.

iii) The third cycle

The third cycle would also be reformed in line with the Brussels Agreements. In France the third cycle used to be made up of a training period in hospital (sixth year), a competition-based internship and a certificate of special studies without clinical responsibility.

IV. IMPORTANCE OF THE INTERDEPENDENCE OF THE OTHER BRANCHES OF MEDICAL TRAINING: PHARMACY, DENTISTRY

Syllabus reform for dentistry

The dentistry syllabus was re-organised by the Decrees of 22nd September, 1965, based on the principles underlying the re-organisation of medical training in 1958. The objective was twofold:

- to associate training more closely with hospital treatment;
- to standardize the different types of training which had existed previously.

Accordingly, centres for dental treatment, training and research (CSERD) were set up within the framework of the CHU. These include:

- the Ecoles nationales de clinique dentaire which are university institutes where students will receive a preparatory training before proceeding to their degree in dental surgery;
- consultation and treatment services where students will receive a practical clinical training.

This reform will revitalise and harmonize the existing programmes and may be extended by a Doctorat de troisième cycle (Decree of 9th June, 1966), a degree of doctor of dental surgery which is obtained in two years and possibilities of refresher courses and post-graduate training. A national consultative commission has been set up to give the CSERD staff a status equal to that of the CHU staff, i.e. the same dual function and hierarchy, recruited by a national competitive examination and on the strength of the candidate's qualifications.

The Decree of 20th July, 1967 gives medical and dental students the same grounding in the basic sciences, i.e. a theoretical and practical training, supervised sessions and clinical training. An examination is held at the end of each year of the five-year course.

Following the Guidelines Act of 12th November, 1968, and pending more thoroughgoing study plan reform, a dental surgery education centre has been set up in Paris grouping second-year students into a single educational unit. This centre will have considerable pedagogic and administrative autonomy and become the precursor of a future independent and autonomous dental department, within the framework of the establishments envisaged in the Guidelines Act. Curricula will be better interlinked and teaching better integrated. Lecture courses will have the benefit of audio-visual aids. The study of questions in depth will take place in small, supervised working groups. The examination notion for practical work will be discarded and replaced by a continuous check on knowledge and aptitude throughout the year.

Pharmacy studies

There has been no change in the pharmacy course by the Decrees of 1965 but a certain number of principles have already been adopted. The faculties of pharmacy provide a practical general course which is intermediate between the course in medical research and the purely scientific syllabus and might therefore give scope for reform. It is likely to be modelled on the medical course and consists of a basic common syllabus accompanied by a certain number of specialised CES examinations which can be prepared in CHU's. The time spent on the traditional subjects would also have to be reduced in favour of the new disciplines. The number of teaching centres is also likely to be reduced. The medical reform has affected pharmacists most at the research level (see Annex IX).

On the other hand, certain changes have been brought about within the framework of the 1968 Guidelines Act.

The fifth and last pharmacy study year now has three options: dispensing, industrial pharmacy and biology (instead of the five certificates required previously). The common minimum programme will enable this degree to retain its unified character (e.g. the "industrial pharmacy" option will authorise the opening of a chemist's shop), even if differentiated practical training arrangements are offered to students. A complete reshaping of studies is being envisaged. Secondly, a major project relates to biological pharmacy. This concerns pharmacist-biologists seeking laboratory or other jobs in regional hospital centres in faculty towns. Supplementary training would seem to be necessary in their case in some branches where laboratory and clinical work are closely related such as: haematology, immunology, parasibiology and microbiology. This additional training, which does not concern commercial pharmacists, may be acquired either during the "intern" course or during the "assistant's" course.

This measure is only the first stage of a reform intended to provide for training in, and practice of, clinical biology of a high quality which will be designed, in line with the principles of reform, with the help of teaching staff, practitioners and students.

V. PLANNED COMMON COURSE IN BIOLOGY FOR ALL MEDICAL CAREERS(1)

The common biology course will be a two-year first cycle course open to all successful baccalauréat candidates in which the first year will form the common core for all those wishing to take medical, pharmaceutical, dental and veterinary subjects. The teaching would consist of obligatory subjects corresponding to the essential basic knowledge, plus a minimum number of optional credits (cellular and genetic biology, foreign languages, etc.) in the proportion of two-thirds of the education given. Bridges or equivalences will be provided with other types of education (particularly the science faculties; the obligatory "modules" would be common to the various first-year streams and only some of them common to the second year to allow for transfers even at this stage). During the first cycle, medical problems strictly speaking would be tackled only in the form of optional theoretical teaching so that the basic scientific training for medical practitioners may be sufficiently complete.

The introduction of a true biological preliminary (propédeutique) common to all medical careers implies a streaming mechanism, since the number of students going into medical faculties needs to be proportioned to establishments' reception capacities (hospital and teaching capacity in university hospital centres - CHU's). Selection and streaming would be organised at the end of the first year in the form of a competitive examination on the obligatory modules; the optional subjects would give candidates additional points. Students could thus go into higher studies other than medicine itself, or even into para-medical careers where the considerable need is far from being met.

VI. PARA-MEDICAL STUDIES

Studies for para-medical occupations are also being altered. As from 1969-70 physiotherapy will be spread over three years. As regards nurses, the principle of upgrading the standard of the school entrance examinations and extending studies to three years has been adopted. A working party is to be formed to work out the details of this reform. A first consequence of this rearrangement will be the grant of student status (social security, housing, university restaurants) to first-year students studying for these para-medical occupations who did not previously have this status.

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1) This reform will mean that the organisation of the human biology study and research cycle will have to be reviewed. Previously it was common to the medical studies preparatory cycle.

Thus, at the start of the various medical training streams there is a move towards a common core of studies plus the institution of "bridges" between the various medical and para-medical disciplines throughout subsequent studies. It is worth mentioning that the study of these reforms has resulted in a more integrated view of the various courses of training, and of para-medical courses in particular.

Thus one step has already been taken on the way to re-organising medical studies. Internally, the measure of extending hospital work to all students was a considerable improvement. But what has been described here in terms of overall re-organisation of medical and para-medical studies is still in the project stage. A third inter-ministerial working party is at present studying the prospects for developing health employment over the ten years to come so that new possibilities for training and new specialised areas of study can be found.

It has also been decided to make a comparison of the various studies concerning medical demography and the number of doctors that will be needed over the next 20 years.

Medical units are already set up and their board must give an account of all hospital facilities available so that medical training can be planned on the basis of existing facilities.

A description of the projects undertaken, such as they emerge from the working parties' activities, will be found in Annex X.

D) Faculties of Law and Economics

Having previously undergone a succession of reforms, the syllabuses and organisation of faculties of law and economics were not affected by the 1966 reform. These earlier reforms were designed to bring courses more effectively into line with the exigences of professional life in view of the fact that faculties of law and economics, as we shall see below, do not specialise in training for teaching careers (rather like faculties of medicine). Entrance requirements are the same as for humanities and science (see III above). However, there is a special two-year course, known as the capacité for students who do not hold the baccalauréat.

The first reform, instituted by the Decree of 27th March, 1954, extended the study period by one year, organised a course for the licence degree in two stages and introduced compulsory practical sessions. The course for the licence (first degree) took four years and consisted of two cycles of two years each. The first cycle provided a common syllabus designed to give all students a general background leading to the certificate of Bachelier en droit. The second cycle which offered a choice of four subjects (public law, private law, politics and economics) led to the degree of licencié in the subject chosen. The syllabus consisted of a theoretical course in all subjects and compulsory practical sessions (two weekly periods of an hour and a half) relating to two subjects chosen by the student at the time of registration. An examination was held every year (four failures at the same examination resulting in exclusion from the faculty). The examinations consisted of written papers in the subjects selected for the practical sessions, in each of which a certain standard had to be reached, and oral tests in the other subjects. These measures proved inadequate to discourage the amateurism which was particularly rife in faculties of law. Accordingly, the Decrees of 27th August, 1959 and 6th August, 1960, brought further changes designed to raise the standard of the course (there is now a written and oral test in all subjects) and to provide a more specialised degree in economics. This system, which was introduced in 1960, is described below.

1. The licence

This requires four years of study. Students specialise to an increasing extent as the course proceeds.

a) Studies

The first year offers a common syllabus (civil law, constitutional law and politics, general economics, history of public institutions and social developments), together with the subjects required by future lawyers (social science methodology, penal law and criminology) and by future economists (statistics and mathematics applied to economics). In the second year, students begin to specialise in view of the type of degree they wish to obtain. They attend basic courses in their own subjects together with other subjects which are basic to other sections (for example, in economics, such subjects as the theory of contracts and administrative and international institutions are still part of the course). Specialisation proceeds further in the third year. In the fourth year the course concentrates on three basic subjects relating to the branch chosen by the candidate, together with a wide range of optional subjects designed to guide the student in determining his future studies.

b) Instruction

Teaching takes the form of lectures and two compulsory practical sessions of an hour and a half, one of which must relate to a principal subject in the annual syllabus, the other being the choice of the student. The practical sessions are held in small groups and students are given oral tests, read papers on set subjects or do exercises designed to give them a more thorough understanding of the subjects dealt with. The marks obtained by students at these practical sessions are recorded and taken into consideration along with the examination results. Future economists are also required to attend an extra weekly period of practical work in mathematics and statistics. Candidates with a poor attendance record at the practical sessions are not allowed to sit for the examination. Arrangements have been made to enable working students to attend these session(1).

c) Examination arrangements

There are two annual examination sessions. The system is the same for all years. The examination consists of:

- a written paper on the main subject of the branch concerned and a written paper on another subject in the same branch, the latter being drawn by lots. A pass mark must be reached in each paper;
- oral examinations on all subjects.

Successful candidates at the fourth year examination are awarded the degree of licencié in the branch they have chosen.

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1) For example, weekly practical sessions are held on Saturday afternoons or in the evening. Furthermore, in the first two years of the licence course the arrangements are the same as for the first cycle in the humanities and science faculties. Since the circular of 4th January, 1968, working students are allowed two years to prepare each of the first and second year examinations, and a pass in the written part of an October examination counts towards the June examination of the following year.

d) The Capacité en droit

This two-year course was instituted by the Decree of 30th March, 1956. It is restricted to law subjects. No previous diploma is required. Candidates must be at least 17 years of age. The training consists of a theoretical course and a number of practical sessions held at the faculty. First-year students can proceed to the second year by examination only. The examination held at the end of the second year consists of written papers, for which a certain standard has to be reached, and oral examinations.

2. The Diplômes d'études supérieures (DES)

This course, which corresponds to the DEA at science faculties, comes after the licence (only holders of the licence may register). The course lasts one year.

a) Organisation of the course

There are six DES possibilities:

- history of law,
- private law,
- criminology,
- public law,
- politics,
- economics.

The list of the DES examinations which may be prepared in a faculty is fixed annually by the faculty assembly and approved by the Minister.

b) Teaching arrangements

Five subjects have to be chosen for each DES examination from a list of subjects which may vary from one faculty to another. Supervised study and research must be done in at least two of these subjects. Theory is taught in the form of lectures and the professor himself directs the study and research. The marks earned by the candidates in the course of their work are recorded and taken into account along with the examination results. There are two examination sessions, each consisting of two written papers one of which may be replaced by a monograph on a subject suggested by a professor and approved by the dean. Students failing any of the written papers are considered to have failed the examination. Higher marks on one paper cannot make up for insufficient marks on another as a qualification for the oral which must be passed in the three subjects on which the candidate has not undergone a written examination. The DES in economics includes practical tests on other subjects related to economics:

- a written paper in statistics;
- a written paper in a foreign language (translation of foreign economic texts into the mother tongue);
- an oral in mathematics or accounting.

3. The Doctorat d'état en droit or ès-sciences économiques

This was instituted by the Decree of 15th June, 1959, and is open to candidates who hold the appropriate DES. There are six branches of study:

- history of law and social developments;
- private law;
- criminology;
- public law;
- political science;
- economics.

Candidates for the doctorate are required to submit and defend a thesis. The subject chosen by the candidate must be approved by the professor who is to supervise his thesis and also by the dean. The latter nominates a board of three professors who examine the manuscript and decide whether it can be accepted for the public oral examination. The board may refuse it, ask for amendments, or accept it for the award of a doctorate.

4. The agrégation examination

Holders of the Doctorat d'état may work for the agrégation, a competitive examination requiring several years' preparation and entitling successful candidates to teach in faculties of law and economics. This examination for recruitment to posts in higher education is comparable to the agrégation in medicine but differs from the agrégations in humanities and science, designed for secondary school teachers, and also from the recent Agrégation de techniques économiques de gestion (business management), although the latter requires the DES. In this respect the agrégation in law and economics is comparable to the Doctorat d'état ès-lettres or ès-sciences and therefore represents a very high level. The quality of the candidate's doctoral thesis is taken into account when he registers for the agrégation.

5. Link between the faculties of law and economics and the professions

Unlike the situation in humanities or science faculties, there is a fairly close link with the professions. The Capacité en droit certificate or the various licence degrees provide a general basis of professional training for a legal, administrative or commercial career. For example, the licence degree is essential to business executives, programmers, magistrates, lawyers and auctioneers. The Diplôme de capacité is required for solicitors wishing to practise in commercial courts, etc.

The professional training for these careers is obtained either outside the faculty in specialised schools, or by "reading in chambers" with a practising solicitor or barrister and taking the professional examinations, or, again, in the specialised institutes of the faculties.

a) For example, under the Decree of 30th October, 1954, the Certificat d'aptitudes à la profession d'avocat (qualifying examination for barristers) is prepared at a faculty institute. Holders of the licence can attend courses, lectures and practical sessions as from their fourth year of study for the licence if they so wish. There is an examination at the end of the course consisting of written papers and an oral. The admission test includes oral examinations.

b) The Decree of 28th July, 1955, set up business management centres to prepare students for the Certificat d'aptitude professionnelle at institutes attached to faculties of law and economics. The course lasts one year. The syllabus consists of lectures and compulsory practical sessions. The examination includes written papers on general subjects and orals.

c) The Decrees of 25th October, 1957, and 14th November, 1958, created a Diplôme d'expert démographe and a Diplôme de démographie générale for candidates holding the licence in economics, humanities and science. Conditions for enrolment are the same as for the previous courses.

This list is not exhaustive. A common feature of all these institutes is that they use the general training acquired in working for the licence as a preliminary to specialisation.

Despite real progress the reform was limited. The economic syllabus was still not sufficiently differentiated from the law syllabus and continued to be unrelated to the social science courses available in the humanities faculties. To a lesser extent this was also true of the law disciplines. It raises the much more general problem of the teaching of the social sciences.

Since 1969, the methods for awarding the agrégation in law and economics have been improved. They concern essentially four points:

- taking of candidates' work into consideration;
- taking of candidates' pedagogic experience into consideration (presentation of a pedagogic dossier);
- simplifying and shortening the tests;
- lastly, apart from the members appointed by the ministry, the examining board may also include specialists freely selected by the establishments.

But even greater changes were made concerning the respective autonomy of licence degrees in law and economics. These are now completely separate from the beginning: there is no longer a common curriculum (first two years).

V. SHORT UNIVERSITY EDUCATION

The IUT's, established by the Decree of 7th January, 1966, are an essential element in the reform of higher education and in the efforts being made to cope with the growth in numbers and the occupational needs of a changing society. They are the fruit of reflection on the purposes of higher education, hitherto characterised by the dual system of the faculties and the Grandes Ecoles. Economic development and technical progress have generated new occupations and functions in the secondary and tertiary sectors, and in applied research. They involve direct collaboration with engineers, research scientists, administrative, financial and commercial management; they are the functions of the higher technicians. Training courses to meet such needs were, in fact, provided under the previous system: at the end of technical secondary education (BTS - higher technician's diploma), or in science faculties where they led to the DEST (diploma of higher technical studies). Such courses proved unsuitable as they tended to overlook the specific nature of the training needed, and their content and teaching methods were too closely bound up with the education systems to which they were attached. Before the IUT's could be set up, the problem had to be tackled at the roots.

A) The Aims Pursued

Starting with a functional analysis, a new form of higher education was developed with its own specific function, structure, lines of operation and teaching methods. The idea was not simply to extend the existing technical courses, nor to set up lower engineering schools, nor to offer a first cycle of higher education or preparatory courses for the Grandes Ecoles, but to provide a type of training somewhere between the technical courses at baccalauréat level (technician's baccalauréat or diploma) and the education given in the Grandes Ecoles and universities, to meet the wide diversity of preferences and abilities. A further feature of the training is its direct vocational purpose.

The courses are provided in autonomous university institutes, and thus bring the university into contact with industry, working life and the outside world. Each university has at least one IUT. But some specialised departments have been set up in industrial and commercial centres where there is no university. These departments come under the authority of the IUT within the nearest university.

B) Organisation of Courses

The training is planned as a consecutive two-year course on a full-time basis, evenly spread over the two years. It leads to the university diploma in technology (DUT).

As more IUT's are established, the former BTS and DEST will be gradually abolished. Entrance requirements are influenced by the following conditions:

- students enrolling for the first year of the higher technician's course are automatically admitted;
- holders of the baccalauréat are admitted if their past record is satisfactory;
- candidates not holding the baccalauréat are admitted, after passing an entrance examination, in the proportion of 10 per cent of the total; this is a social upgrading measure, not a means of "salvaging" those who have failed the baccalauréat. The admission procedure invariably includes an interview with the candidate, which is an innovation compared with other branches of education, where the interview is reserved for candidates admitted exceptionally.

1. Internal organisation of the IUT's

Each IUT has a principal who is a member of the academic teaching body, and is directly responsible to the *secteur d'académie* (area education authority). He runs the institute as a counterpart to the university faculties, not as a subsidiary department, and sees that the training given is coherent and efficient. The teaching staff includes academic staff, technical instructors and people selected on their merits from the various professional fields, appointed under the usual procedure for associate staff. The administration of the IUT's ensures close collaboration between the different categories of teaching staff. Such collaboration is both typical and necessary for autonomous, authentic technical education.

2. Specialisation

The educational unit in the IUT is the specialised department. Apart from a few highly specialised courses (e.g. for opticians), for which the present lines of training fully meet the requirements, the IUT's offer specialised courses providing a broader and more versatile training. Courses are provided as follows:

In the secondary sector:

- applied biology - options: agriculture biological and biochemical analysis, dietetics, food and drink industries;
- chemistry;
- civil engineering (contruction and contracting);
- light electrical engineering and electronics - options: automation electronics;
- electrical engineering - option: heavy electrical engineering;
- mechanical engineering (including production engineering);
- information science;
- metrology - options: physics laboratory, physico-chemical laboratory;
- statistics and quantitiative techniques;
- heat.

In the tertiary sector:

- administration of public bodies and firms - options: administration, finance - accountancy, personnel;
- careers in information - options: communications (journalism, advertising, public relations) documentation (documentation publishing);
- careers in social work - options: socio-cultural group leaders, specialised therapists, social workers;
- marketing.

In October 1970, there were 50 IUT's but total enrolments for the academic year 1969-70 were just over 17,000 students. Despite a considerable effort to build premises and recruit teachers, the target of the Fifth Plan to have 165,000 students in the IUT's by 1972 (90,000 in the tertiary sector and 75,000 in the secondary sector) will certainly not be achieved.

3. Completion of study

There is an end-of-course examination, and the resulting university diploma in technology (DUT) bears an indication of the speciality chosen.

C) The IUT's Position under the Legislation on Vocational Training

In higher education, the IUT's share the same general aims as other centres of technical and vocational instruction which are trying to establish their identity. The idea is that the choice of a technical course should henceforth be based on positive criteria and not, as hitherto, on social considerations or the negative criteria of unsuitability for other courses.

At the same time, the IUT attempts to bridge the gap between education and the needs of the community. While France trains about 12,000 engineers a year, the output of senior technicians is less than 5,000 a year. The IUT's with their completely new type of education are trying to reduce this alarming deficiency.

Lastly, a Decree of 30th August, 1968, made certain amendments to IUT organisation so as to define their function more clearly within the framework of the Vocational Guidance and Training Act.

In addition to the academic courses described above, some IUT's will introduce refresher courses in the autumn term, 1968. These courses for people already in employment will differ from the initial full-time two-year training in content, teaching methods and performance rating procedures. The courses will be tailored to the individual as regards lines of study, content and duration. Successful completion of the courses will be recognised by a "credit" system similar to that practised in the United States. The candidate can thus obtain the DUT (university diploma in technology) in his own time, according to his possibilities. Agreements will have to be reached with firms to alternate periods of full-time education with evening classes.

From the autumn term 1968, this new type of education was provided at Rouen (in chemistry), Ville-d'Avray (in mechanical and electrical construction), Lille (several specialisations) and certain provincial centres associated with the Conservatoire national des arts et métiers (CNAM), which traditionally specialises in further training.

This extension of the IUT's function conforms to the recommendations of the Vocational Guidance and Training Act, that training facilities should be grouped together and diversified and henceforth organised in "standardized centres" offering, whatever the level of education they provide, the most flexible and varied facilities for both initial and further training. A similar scheme was, in fact, suggested for two-year training in the new colleges of technical education (CET's).

The same flexibility and variety recur, at another level, in the IUT's. From their inception, the IUT's had a certain success. Students who after completing the first cycle of higher education in a humanities or science faculty were awarded a university diploma in humanities or science (DUEL or DUES) became candidates for admission to the IUT's either because they did not feel capable of profiting from a university education, or because they were attracted by the direct professional openings offered by the IUT's.

It is a pity that such students, with two years' higher education behind them, should follow exactly the same courses in the IUT's as those who have just obtained their baccalauréat. Special training of a kind as yet not determined is therefore to be arranged for their benefit. Whatever type of training is taken in an IUT (and the choice is very wide), it leads to the same university diploma in technology (DUT).

IV. THE ACT OF 12th NOVEMBER, 1968, AND THE RE-ORGANISATION OF THE UNIVERSITIES

The reforms carried out in 1966 and the re-organisation of the cycles in university-type higher education are, broadly speaking, still valid. But the Act of 1968, introduced as a result of the events of May of that year, made radical changes in the operating conditions of the universities, the archaic over-centralised structures of which prevented any progress. By restructuring the universities, some of the fundamental problems could at last be tackled.

A) General Principles

Working out detailed reforms in higher education was not placed in the hands of the central authorities. In order to respect the various establishments' desire for autonomy and participation, the French Government decided merely to lay down the main principles. The latter are contained in a Higher Education Guidelines Act (Loi d'orientation de l'éducation supérieure). It was therefore the responsibility of the teachers, other staff and students themselves to carve out their own fields and to regroup higher education establishments covered by the Act.

1. Field of application of the Guidelines Act of 12th November, 1968

The Guidelines Act makes no changes in the status of the public establishments not coming under the Ministry of Education or to the private higher education sector. This means that a very large number of the Grandes Ecoles, dependent either on technical ministries or on private education, do not come into the Act's field of application even when the classes preparing for competitive entrance examinations into these schools do come under the Ministry of Education.

Some schools, however, have been concerned in some reforms, their relative autonomy having allowed some of them to introduce innovations.

The need for training for the medical and para-medical professions to be seen as a single whole means that though the latter are dependent on the Ministry for Social Affairs, their training cannot be kept separate from medical training.

Schools of Art (architecture, fine arts and applied art) coming under the Ministry for Cultural Affairs will be the subject of decisions laying down the special relationships these establishments may maintain with those coming under the Ministry of Education.

The Higher Education Guidelines Act mainly concerns the university faculties and related institutes; the other public higher education establishments dependent on the Ministry of Education may also be affected by the Act.

2. The role of higher education in training

Article 1 of the Guidelines Act recalls that the universities' task (and that of any other establishment the Act applies to) is to formulate and transmit knowledge, develop research and train men.

The innovating aspect of the Act comes out most strongly in this last objective. The Act, in fact, specifies that these universities must "meet the nation's needs by supplying managers for all fields and by participating in the social and economic development of each region". In their approach to this task they must fall in line with the democratic trend demanded by the industrial and technical revolution, the general culture provided by higher education being useful to all, even when not in direct preparation for a given occupation.

But universities must, in contrast to what has happened in the past, also endeavour to give students "the means of securing guidance and of making the best selection of the occupation they intend to devote themselves to". Higher education establishments need therefore to provide not only the "necessary knowledge" but also the "elements of training".

Accordingly, Article 17 of the Act requires, in this connection, that the Ministry of Education and the universities take every step appropriate to their role, in conjunction with the competent national, regional and local bodies, to inform and advise students of the job and career opportunities for which their studies can fit them. The universities and competent bodies are also to "take suitable steps to match the education provided by universities to occupational opportunity and vice versa". Study of the "profile" required for this or that occupation and information on opportunities do not mean that the changes in higher education have to be dependent on the labour market, since forecasting in this area has proved to be too uncertain.

The increasing importance attached to general education and to the basic instruments of analysis should assist adjustment to present and future employment requirements.

Since the demand for highly qualified manpower remains very high in a society in movement, no selection or "*numerus clausus*" has been instituted at higher education level. Thus, diversification must be aimed at in higher education in order to provide all pupils leaving secondary education with a variety of streams, transfer opportunities, and a number of different forms of training during their careers as students.

For this purpose, Article 16 of the Act envisages the organisation of guidance periods for newly registered students in education and research units which do not recruit by examination or competition. The first higher education cycle will be pluridisciplinary, so as to help students find the right direction. At the end of this phase the student could be advised to change his study plan or take up a shorter educational course related to a particular trade or profession. If the student insists on keeping to his first choice and finishes his study year unsuccessfully, he may be required to start the next year by doing a second period of pluri-disciplinary studies, this time with no appeal at the end of it. This continuous guidance of students should cut down the large percentage of failures occurring in the faculties at present.

Lastly, higher education, in its training role, will be called upon to play a fundamental part in the development of continuing education. It will be available to all population categories whether candidates have university qualifications or not. The education itself, the teaching methods, certification of studies, timetables and the university year will all be specially adapted. These activities will, of course, all be organised in conjunction with regional and local authorities, public establishments and all the other bodies concerned and this will strengthen the links between higher education establishments and their environment.

3. The various boards and the outward-looking attitude

The main lines of higher education's future organisation include the institution of a number of boards whose membership and role will strengthen the outward-looking attitude referred to earlier.

The basic component is the education and research unit administered by an elected board and headed by a director elected by the board for a three-year term. Article 8 lays down that the statutes of these units may provide for the participation of outside persons in these boards.

These education and research units are grouped organically in universities classified as public establishments of a scientific and cultural nature. These universities are administered by an elected board and headed by a president elected by the board for a five-year term. The board's statutes will allow for the participation of outside persons chosen for their qualifications and, particularly, the part they play in regional activities.

A higher education and research board will be set up in each region, made up of elected representatives from the establishments plus, for one third of its strength, outside persons representing local authorities or bodies and regional activities. The task of this board will be to contribute towards the future planning, co-ordination and programming of higher education and research. It will give its opinion on the syllabuses of, and requests for funds from, the universities within its jurisdiction. It will institute and maintain all necessary liaison and co-ordination with bodies responsible for regional development (Article 5).

At national level a National Higher Education and Research Board will be set up under the chairmanship of the Minister of Education, made up of the establishments' elected representatives and, for a third of its membership, outside persons representing the main national interests (Article 6). This board:

- will undertake the planning of higher education and research in liaison with the bodies responsible for the periodical national plans;
- will be consulted on syllabuses and requests for funds submitted by universities and must be consulted about the distribution of the budgetary allocations among the various establishments;
- will undertake a general co-ordinating role between the various establishments;
- will make all proposals and give all opinions on measures relating to the conditions for the award of national degrees and diplomas for which the Ministry of Education is responsible, and the drafting of common rules on the pursuance of studies;

- lastly, will give the Minister its opinion on the objections raised by rectors to the resolutions of establishment boards.

Regarding this last point, it should be remembered that the academic region rector (the academic region is an educational area) is responsible for the co-ordination of higher and other educational levels and acts as chancellor of the universities within his jurisdiction. He represents the Minister in the various statutory bodies and boards. In particular, he is chairman of the regional board.

This brief outline shows the determination of the legislature to see universities integrating far more than before in local and regional reality. Another concrete example is the reminder given of a possibility little used by the establishments in the past, i.e. the employment of associate professors (French or foreign) from outside the university for education and research alongside the state staff. Apart from these general considerations the Guidelines Act is based on two main principles: autonomy and participation.

4. The principle of autonomy

The description given above of the respective roles of regional boards and of the National Higher Education and Research Board suggests that the state retain the means of inititative and the power to act.

a) Financial autonomy

i) Principles laid down by the Act

The Finance Act will fix the total amount voted by the state; it spells out the distribution of the staffing allocations by category, and the sums allocated to scientific research.

On sight of the establishments' programmes and in conformity with the national interest, the Minister, after consulting the National Board, will distribute the staff allowed for in the Finance Act among the establishments (universities and independent public establishments) and will allocate to each one a total operating budget. The Minister will also distribute the equipment vote in the framework of the guidelines laid down by educational planning.

Establishmentsmay have the benefit of resources additional to the staff, equipment and finance allocated by the state: fees for services, subsidies, bequests, donations and foundations. Each university will distribute the state funds and the other resources among the education units attached to it. It will vote its own budget which must balance and will be published. A government order will set out the cases and conditions in which establishment budgets must be submitted for approval. The operating allocations made by the state are thus intended to cover day-to-day running and equipment expenses and, where appropriate, the recruitment and remuneration of staff other than that listed in the Finance Act. Autonomy of management is reflected in the fact that financial verification takes place ex-post facto.

ii) The implementing Decree

With the principles thus stated, an implementing Decree, dated 17th June, 1969, lays down the universities' new financial regime and endeavours to strike a balance between the freedom autonomy implies and the need for control by the state - the provider of the resources. Considerable powers are given to the academic regions rector for this purpose and he becomes the chancellor of all the universities within his jurisdiction which are headed by an elected president.

Each university will receive a global sum made up of the operating and equipment appropriations, the latter including equipment and minor building expenditure(1).

Some establishments within the university framework however, such as university institutes of technology, will receive their funds directly from the Ministry of Education.

The distribution of the funds appropriated will be the responsibility of the university board and will be decided by absolute majority by the board's members (representing teaching staff, research workers and students, and administrative and technical staff) and must comply with the numerous rules of the Ministry of Education.

The chancellor's powers of control and direct authority will apply in the following precise cases:

- when the university's budget has not been approved (in balanced form) due to the default of those responsible;
- when the budget has reached a critical state due to bad management;
- when the budget fails to observe the distribution of appropriations effected by the state, in compliance with the Finance Act passed by Parliament, or to include an obligatory item of expenditure (this will be added by order of the chancellor).

Research contracts, however, entered into by a university with public or private bodies will no longer be submitted to the Ministry of Education for approval.

As regards financial management properly speaking, the university will select its own accountant from a national list of qualified persons. He will no longer be answerable to the Finance Minister but will be placed directly under the authority of the president of the university and will be the head of all financial services.

B) Administrative Autonomy

1. Principles laid down in the Act

The general principle adopted is that of the administrative autonomy of education and research units and the universities to which they are attached. But for some of the measures included in the Guidelines Act the legislature wished to spell out the basic rules governing the representation of all those concerned and laying down the respective roles of teaching staff and students in relation to the questions dealt with. Thus, as regards teaching staff, the Act stipulates that consideration of individual questions relating to their recruitment and career is the exclusive concern, in each of the competent bodies, of the teaching and similar staff of a rank at least equivalent to that of the person involved. The same is true of the selection of teaching staff and the disciplinary powers exercised in their regard. Teaching staff alone will be responsible for organising knowledge and aptitude testing, appointing examining panels, awarding certificates and diplomas and allotting teaching duties and research activities (Article 24).

As regards representation, the Act lays down, among other things, that teaching staff whose duties are those of professor, senior lecturer and assistant lecturer, or the like, must be at least equal in number to students in joint organs, boards or other bodies in which they both participate. Unless otherwise decreed, teaching staff of the

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1) Major projects continue to be state-financed as in the past.

rank of professor or senior lecturer will constitute at least 60 per cent of the total teaching staff representation. Lastly, board representatives of the various categories will be elected by secret ballot by separate electoral colleges.

These are the limits within which the delegates elected by the various education and research units will be required to draw up their statutes. The elected representatives from these units will then formulate the university statutes in accordance with the provisions of the Guidelines Act.

These general principles having been set out, the Ministry, retaining the initiative and powers of control of the system as a whole, has first worked out a certain number of statutes with the object of preserving some uniformity (for the UER's, IUT's and other institutes) and, secondly, defined generally the new rules for the maintenance of discipline.

2. Particular statutes for certain establishments: education and research units (UER)

The term "education and research unit" (UER) defines a juridical category. But each unit can take the designation it considers suitable and organise its own internal structure by sections.

The total number of board members may not exceed 40. The delegates to these boards are free to decide on how this number is made up (participation of outside persons); their first task will be to draft the UER's statutes and decide representatives' term of office (annual election would appear to be necessary for students).

In their plenary form the boards will have full powers under the following headings:

- changes to statutes;
- drafting and altering by-laws;
- UER internal organisation;
- links with other UER's;
- definition of teaching methods;
- definition of procedure for testing knowledge.

In restricted form, made up of the teaching staff alone, the boards are responsible for the choice of teaching staff and the distribution (subject to periodical revision) of teaching functions, research activities, and examination organisation. The director of the UER will be elected by the board for a period of three years by a majority to be laid down in the statutes. He should be of professor, senior or assistant lecturer rank, unless decided otherwise by a two-thirds majority resolution by the board. Where below the rank of assistant lecturer, his appointment must be approved by the Minister on the advice of the university board. The director may have one or more assistants.

The UER will be run by the director who will be responsible for the maintenance of order and the utilisation of the premises.

UER's with research programmes and research funds available for distribution will have science boards. Freedom, within the statutes, is the rule in all other matters. The board may also make provision for other bodies such as a management committee, and special sub-committees.

It should also be noted that the medical education and research units are intended to form part of the university hospital centres and will enjoy the status of public establishments of a scientific and cultural character.

3. The statutes of the university institutes of technology

Under the very principle of the Guidelines Act of 12th November, 1968, the elected representatives of the various establishments draw up their own statute as part of their administrative independence. However, in order to achieve a certain uniformity, the Ministry itself drew up some statutes including those for the IUT's.

The IUT statutes have been laid down by government decree. IUT's are public establishments of a scientific or cultural nature; their purpose is an educational one. They are subject to the Act's provisions, with certain exceptions designed to take account of the newness of these establishments whose rapid expansion has not yet been completed.

Thus, the opening or closing of an IUT will be decided by decree and not by the rector. The director will be appointed for a term of three years by the Minister on the advice of the IUT board. The equipment and operating resources to go to the IUT for both staff and equipment can be fixed directly by the Minister. One third of the IUT board (which will have 39 members) will consist of outside persons chosen for their qualifications and the part they play in activities related to the establishment's special fields. The categories from which these outside people are to be chosen will be decided by the rector but employers and wage-earners must be equally represented. One-third participation by outside persons is mandatory for all of these institutes.

The three-part make-up of the teaching body (higher education staff, secondary teachers and vocational instructors) will be reflected in the boards of these establishments directly devoted to training. Students will not be represented in greater numbers than teachers.

Higher education teachers in IUT's will be available for simultaneous attachment to other units where they can pursue their research activities; they can therefore vote and be eligible for election in the two units with which they are connected.

Conditions of student admission to IUT's will be maintained as they were before the reform (entrance based on tests of level of knowledge).

4. Other institutes attached to universities

These institutes may be exempted from the Act's provisions as regards their links with the university they are attached to. The establishments are mainly institutes of political studies, business management institutes, vocational training institutes and other similar institutes. The exemptions are primarily threefold:

- the presence of persons from outside the university on their management boards in order to meet the specialised requirements of the teaching bodies in these institutes;
- the dual vote for students and the dual eligibility of teachers when they belong to a second establishment as well;
- special management conditions taking account of the previous operating characteristics of these establishments and their special purpose.

5. The new universities

At 31st December, 1968, there were 664 education and research units (UER's), but clearly this is not a final figure because some UER's were split when the new universities were set up, particularly in Paris. The number of UER's was subsequently increased by new creations. While transitional boards were dealing with current business at faculty level, elections for the UER councils were held. These councils consisted of student delegates, teachers, researchers and administrative and technical staff. Their function was two-fold:

- to draw up the statutes of the UER's;
- to appoint delegates to the constituent bodies of the new universities responsible for drawing up the statutes of the universities, erecting them into public establishments of a scientific and cultural nature. Once the statutes were approved, the universities could then proceed with the final elections of UER councils and university boards.

General cretaries will be appointed to the new universities to direct the administrative services as a whole.

When a group of universities(1) including at least half the students and teachers in France have adopted these statutes and appointed more representatives, the National Higher Education and Research Board will be instituted.

It will be able to advise the Ministry on the broad options of university policy and give its views on national diplomas and the new training streams.

These universities have been defined and their constitution decided by decree during the 1969-70 academic year. There are 63 such universities including 13 in the Paris region.

Each university has between 6,000 and 18,000 students. In medium-sized towns the university brings together all the former faculties. The former university colleges in towns without a full university have been made into university centres. In large cities, two or three universities have been set up instead of only one, and 13 in Paris.

Tables 83 and 84 summarise the arrangements made in towns where a former university has been replaced by a number of universities. These first examples afford an opportunity of judging how teachers and students regard their future working context. On looking at these tables it cannot be said that multi-disciplinary studies are universal. Although no university is set up exclusively on the basis of a former faculty, there are some that have gained university status merely by adding a few extra subjects. Some of the conjunctions, moreover, seem artificial.

But the present setup of universities in large towns may not be the final one. Some divisions do not seem wholly satisfactory. Parallel with the definition of the new training streams for higher education, the pattern of the university will be modified by course changes from one university to another and by the introduction of supplementary courses, as indicated, for example, in the notes to Table 83. These developments will take place during the Sixth and Seventh Plans: in other words the final pattern of French higher education, in view of the absence of non-university higher education in the Guidelines Act, will not be known before the end of the 1970's.

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1) It seems unlikely that this procedure will take effect before 1st January, 1971, since the Paris universities have fallen slightly behind on the initial schedule.

TABLE 84

Examples of New Combinations of Disciplines in Province Towns where the Older Universities Are Giving Place to a Number of New Multi-disciplinary Universities(1)

Aix-Marseille	I	Humanities and social sciences, science (and scientific institutes), school of physics.
Aix-Marseille	II	Law and economics, geography, medicine, pharmacy and odontology, institute of physical education, university institute of technology, Marseille-Luminy experimental university centre, business management institute, regional institute of labour and centre for the study of social relations.
Bordeaux	I	Science, law, economics, institute of political studies.
Bordeaux	II	Medicine, pharmacy, odontology, sociology, psychology, oenology, cellular biology, biochemistry, modern languages, National Institute for Physical Education.
Bordeaux	III	Humanities, geology, university institutes of technology, social sciences and information section.
Grenoble	I	Medicine and pharmacy, regional institute of physical education and sports training, science (and scientific institutes), university institute of technology (one unit).
Grenoble	II	Law and economics, social sciences, university institute of technology (one unit), business management institute, institute of political studies, institute of town planning studies, institute of commercial studies.
Grenoble	III	Humanities, modern languages, phonetics.
Lyon	I	Science, medicine, pharmacy and odontology, regional institute for physical education and sports training.
Lyon	II	Humanities and social sciences, law and economics, institute of political studies.
Montpellier	I	Law and economics, medicine, pharmacy, dentistry.
Montpellier II	II	Science, teacher training, university institute of technology, national school of chemical engineering, institute of business training.
Montpellier	III	Humanities and social sciences, economics, medico-social psycho-pedagogic institute.
Nancy	I	Medicine, pharmacy and dentistry, regional institute of physical education and sports training; science, institute of engineering science, university institute of technology (secondary departments).
Nancy	II	Law and economics, administrative and political studies, humanities and social sciences, commercial institute, university of technology (tertiary departments), European university centre.
Rennes	I	Law and economics, business management institute, science, medicine, pharmacy and dentistry, university institute of technology, philosophy, national school of chemistry.
Rennes	II	Humanities and social sciences, regional institute of physical education and sports training.
Strasbourg	I	Medicine, pharmacy, dentistry, science (and scientific institutes), behavioural and environmental sciences, geography, economics, national school of chemistry.
Strasbourg	II	Humanities and social sciences, protestant and catholic theology, regional institute of physical education.
Strasbourg	III	Law and political science, institute of political studies, institute of labour, institute for higher commercial teaching, journalism, university institute of technology.
Toulouse	I(3)	Law and economics, institute of political studies, business training institute.
Toulouse	II(4)	Humanities and social sciences.
Toulouse	III(5)	Science, medicine, pharmacy, dentistry, regional institute for physical education.

Notes:

1) Some of the decrees setting up the new universities state that additional courses will rapidly be introduced to augment their multi-disciplinary nature; the early anticipated developments are mentioned in the above notes. Furthermore, 18 small or medium-sized national higher schools of engineering have been attached to the new universities (Journal Officiel, 15th October, 1969).

2) New units to be created:applied documentation techniques, applied mathematics, modern languages.

3) Units to be created: economics, management training, mathematics (data processing and statistics).

4) Units to be created: modern languages, economics (business economics and management techniques).

5) Units to be created: mathematics and data processing.

TABLE 84

Constitution of the 13 universities in Paris through the re-organisation of education and research units from former faculties of the single University of Paris(1)

Paris I	1)	Complete UER's: general economics (business management, economic policy and analysis and econometrics), general legal studies (labour law), Business Management Institute, Institute of Economic and Social Development Studies, Institute for Labour Sciences, Institute of Demography.
	2)	Partial UER's: general legal studies (business law, public administration, political science) general legal and economic studies (international development and relations; international and comparative European studies), geography, history, philosophy and aesthetics.
	3)	New units: social sciences; private law and business law; modern languages; history of art. (Possible co-operation agreements with the Institute of Political Studies).
Paris II	1)	Complete UER's: general legal studies (civil law and litigation, business law, criminal science and criminal sociology) general legal and economic studies (history and sociology of institutions and the economy), Press Institute of France.
	2)	Partial UER's: general legal studies (public administration, political science), general legal and economic studies (international development and relations, international and comparative European studies).
	3)	New units: university institute of technology, economics, labour law, social psychology and legal sociology, modern languages, foreign institutions and civilisations, data processing as applied to management, documentation and forecasting. (Possible co-operation agreements with the Institute of Political Studies.)
Paris III	1)	Complete UER's: general and comparative literature,the language, literature and civilisation of English-speaking countries, University Centre for Modern Oriental Languages, German Institute, phonation and language, Institute of French for Teachers Abroad, Advanced College of Interpreting and Translating, drama, the languages and civilisation of Latin America, the languages and civilisation of Southern Asia and the Far East.
	2)	Partial UER's: French language and literature, Italian and Romanian, Iberian studies (philology and social sciences).

3) New units: law, economics and political science, communication and expression techniques, film studies. (Possible co-operation agreement between the Saint-Cloud Audio-visual Centre, the National Correspondence Course Centre, the National Conservatoire of Arts and Crafts, the National Conservatoire of Dramatic Arts, and the Practical School of Advanced Study).

Paris IV

1) Complete UER's: art and archaeology, French lanaguage, Latin, Greek language and literature, Germanic studies and German-Slav civilisation, the languages and civilisation of Eastern Europe, Centre of Humanities and Applied Science, Institute of Applied Social Sciences, language, literature and history of thought in the Anglo-American world.

2) Partial UER's: geography, history, philosophy and aesthetics, French language and literature, Italian and Romanian, Iberian studies (philology and social sciences).

3) New units: UER's for the plastic arts and music, musicology, data processing as applied to linguistics and information, history of institutions and economic and social history. (Possible agreements with the Practical College of Advanced Study, Institute of Political Studies, National School of Palaeography and Librarianship, National Conservatoire of Music, National Academy of Fine Arts).

Paris V

1) Complete UER's: social sciences, psychology, educational sciences, mathematics, formal logic, data processing, University Hospital Centre (CHU) Cochin, Port-Royal, CHU Necker, Sick Children, CHU Paris Ouest, Saints-Pères Biomedical Centre, forensic medicine medical law and medical deontology, IUT, Institute of Psychology, Regional Institute of Physical Education and Sports Training, dentistry.

2) New units: UER for pharmacy and biology UER for action mechanisms of drugs and toxic substances, UER for human and experimential biology, biology. (Possible agreements with the Institut Pasteur, the Natural History Museum, the Practical College of Advanced Studies).

Paris VI

1) Complete UER's for mathematics: analysis and applications, mechanics, data processing and statistics, applied physics, optics and molecular physics, solid state physics, theoretical physics, physical chemistry, organic chemistry, inorganic chemistry, plant physiology and botany, animal physiology, biology, zoology, soil science, CHU St. Antoine, CHU Pitié-Salpêtrière, CHU Broussais, Cordeliers Biomedical Centre, Institute of Globe Physics, Institute of Statistics, Planning Institute, dermatology, National Colleges of Chemistry (temporarily).

2) Partial UER's: algebra and geometry, biochemistry, genetic biology.

	3)	New units: geography, modern languages, general technology, economics and management techniques (possible agreements with the Natural History Museum, the College of Physics and Industrial Chemistry, Advanced College of Electricity, National College of Mining).
Paris VII	1)	Complete UER's: Clinic for Social Sciences, CHU Bichat, Beaujon, CHU Lariboisière, St. Louis, hematology, anthropology, ethnology, and comparative religions, preliminary experimental and medical biology (Bobigny), the teaching of science subjects, English institute known as Charles V).
	2)	Partial UER's: algebra and geometry, biochemistry, genetic biology.
	3)	New units: separate UER's for biology, physics, chemistry, geography and social sciences, and for palaeography and librarianship; geology, linguistic research (possible agreements with the Practical College of Advanced Studies, the Natural History Museum, the Advanced College of Electricity, the National Institute of Agriculture).
Paris VIII Vincennes 1968		Current affairs, languages, social sciences
Paris IX Dauphine 1968		Management and applied economics (first cycle), organisational management (third cycle). Management information science, applied economics (second cycle) Management (second cycle)
Paris X Nanterre		Humanities and social sciences, law and economics, IUT.
Paris XI Paris-Sud	1)	Complete UER's: Guidance and training in: mathematics and physics, chemistry, biology and geology, exact and natural sciences, CHU Kremlin-Bicêtre, mathematics, physics, biology, geology, chemistry, Institute of Nuclear Physics, linear accelerator, IUT. First cycle experimental biology and medicine (Montrouge) law and economics.
	2)	New units: UER for pharmacy and biology, UER for chemotherapy and UER for health and the protection of mankind, IUT, modern languages. (Possible agreements with the Central Academies of Art and Manufactures, the National Advanced College of Chemistry).
Paris XII	1)	Complete UER's: CHU at Créteil.
	2)	New units: UER for law and economics, UER for humanities and social sciences, UER for ecology. IUT second cycle data processing in medicine, Town Planning Institute.
Paris XIII		New units: Science Centre, IUT, UER for law and economics, UER for humanities and the social sciences.
Note:	1)	As far as the new units are concerned, apart from the UER's and the various types of institutes specified, they consist of extra departments; as there is a shortage of teachers in some fields, often these teachers are detached to offer courses in other universities. Within the university they are placed in departments

offering credit points to students registering on a subsidiaire basis. These departments, of course, do not enjoy the independence of the UER's which constitute the university.

VII. NON-UNIVERSITY HIGHER EDUCATION

A) Definition

The dual system, university-Grandes Ecoles, somewhat modified by the recent establishment of the IUT's, is typical of higher education in France. The Grandes Ecoles, whether on the humanities or science side, show extreme diversity as regards standard, size, size of classes, type of training, career possibilities and controlling authority.

All the schools and Grandes Ecoles, still known as higher technical education, have a common objective, however: to supply the senior technicians needed to meet the immediate economic and social needs of the community in a variety of fields - private sector, administration, Ministries of Industry, Agriculture and Public Works, Ministry of Education(1).

To ensure this, and particularly in the case of the Grandes Ecoles, an élite is recruited (mostly from families with a middle or higher management background), carefully selected by a series of examinations from admission to the preparatory class to the competitive entry examination.

B) Preparatory Classes

Such classes are run for all the Grandes Ecoles, whether they provide training in humanities or science, although the latter are better known owing to their more direct link with economic life through the engineering schools. There are 14 types of preparatory classes - a diversity which is hardly compatible with the relatively homogeneous all-round training provided in the schools themselves. The baccalauréat required for enrolment already amounts to some pre-selection and streaming before the entrance examination. Whether on the humanities or science side the student's school record, and his performance in the baccalauréat examination, carry particular weight. Those who are accepted have the benefit of a teaching staff and training facilities of a very high standard. Lastly, the classes coming under the higher education department of the Ministry of Education prepare pupils for the entrance examinations of schools attached to other ministries.

1. Preparatory classes in the humanities

Pupils enrolling in these classes must have the baccalauréat, section A. The course lasts at least two years, and mainly prepares candidates for the entrance examinations for the humanities sections of the higher teacher training colleges (ENS's) of Rue d'Ulm, Sèvres, Saint-Cloud, Fontenay-aux-Roses. In the Rue d'Ulm and Sèvres the courses are designed chiefly for those wishing to go in for higher level teaching or research, and at Saint-Cloud and Fontenay, for those wishing to go in for secondary school teaching; the facilities provided for the preparation of university entrance examinations and national competitive examinations for professional recruitment are exceptionally good.

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1) The reader is referred to Table 3 for an idea of the number of students.

2. Preparatory classes in science(1)

Preparatory classes are run at two levels: while some schools are satisfied with one year of higher mathematics, others demand the second-year level of special mathematics. Thus, the school for which the candidate sits the entrance examination is largely determined by whether he has taken the second-year course or not. The baccalauréat, section C (formerly elementary mathematics) or section E (formerly mathematics and technology) is compulsory for admission to the classes; pupils are enrolled on the strength of their school record and results in the baccalauréat examination.

Three types of courses are provided: course A, with the main emphasis on mathematics, course B, mainly physics and chemistry, and course C, mainly biology and geology. Course A is further sub-divided into A (normal) and A' oriented more towards pure mathematics.

Course A' is intended exclusively for candidates for the Rue d'Ulm and Sèvres colleges, and for the Polytechnique, or for the mathematics and physical science sections at Saint-Cloud and Fontenay. Course A trains candidates for the Naval School, the Schools of Aviation, Marine Engineering, Mining, Bridges and Highways, the National Schools of Telecommunications, the National School of Aeronautical Engineering and the predominantly mathematical sections of the Teacher Training College for Technical Education (ENSET). Course B is aimed at the National Schools of Electricity, Optics, and Engineering (ENSI's), and the sections teaching mainly physics and chemistry in the ENS's and the ENSET (Cachan).

Course C (C or D baccalauréat) trains for the National Institute of Agronomics (INA), the National Schools of Agriculture (ENSA's), the natural science sections of the ENS's, the physiological chemistry section of ENSET, as well as for the Versailles Horticultural School, and for careers in the agricultural and food industries.

Since 1959, a special competitive examination for admission to the Grandes Ecoles has been taken in preparatory classes of a special type, for those holding the mathematics and technology baccalauréat. Such classes were established in Lyon in 1961, and in Reims in 1962. They will not be continued indefinitely as under the reformed system the C and E baccalauréats will be of the same level. Certain other preparatory classes should be mentioned:

- Candidates holding the baccalauréat in any section may spend two years preparing for the Saint-Cyr Military Academy, which has two sections, one predominantly science and the other predominantly humanities.
- Candidates for the economic sections of ENSET can also take a special preparatory course covering the first two years of the licence course in economics, with additional instruction in modern languages and mathematics.

3. Other conditions of recruitment

Some schools recruit students after a year's preparation, either in the first-year course at the university or in a course of higher mathematics. The National Schools of Arts and Crafts (ENIAM's), and the National School of Arts and Industry at Strasbourg,

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1) Some schools recruit at different levels on the strength of pupils' qualifications.

the National School of Industrial Ceramics at Sèvres, and the National School of Applied Radio-electricity at Clichy, enrol students after a year's special preparation, including technological studies. Some schools of commerce (HEC, ESSEC, etc.) also enrol students, after a year's preparation under a programme which has just been revised to enable those holding the baccalauréat, sections D and E, to apply (the changes mainly affect the mathematics course).

Other schools enrol students immediately after the baccalauréat, or on their general qualifications, e.g. the National Institutes of Applied Science (INSA's) of Lyon, Toulouse and Rennes.

Others, again, run their own preparatory classes and enrol students at baccalauréat level or before; certain sections lead to engineering courses (engineering schools at Marseille, Viollet, Bréguet).

Lastly, certain schools enrol students on their qualifications alone, at advanced levlel; these are all special schools of applied science for engineers who have qualified in the Polytechnique or some other all-round establishment, or for civil servants needing specialised or refresher courses.

C) Engineering Schools

Apart from the national engineering schools, engineers are not trained at the university, but in special schools which vary widely in standard and purpose, viz:

- autonomous Grandes Ecoles, providing general or specialised engineering courses;
- national schools of applied engineering for arts and trades, geared to the mechanical engineering and metal working industries, like some of the specialised schools mentioned above;
- university institutes, training engineers in four years: the Institute of Industrial Chemistry at Rouen and the Institute of Materials and Mechanical Construction;
- the ENSI's, established in 1947 as offshoots of the university faculties, providing three-year training courses after two years' preparation;
- the National Engineering Schools (ENI's) at Belfort, Brest, Metz and Saint-Etienne, providing four-year courses in production engineering for students enrolled at technical baccalauréat level;
- the National Arts and Trades Institutè, providing advanced part-time training for experienced workers leading to the DEST or the state engineering diploma (DPE) after five or six years' study;
- private establishments, of widely varying standards.

Classification

It is very difficult to classify these training establishments owing to the extreme diversity to be found in each category. The 120 schools of engineering included in a list drawn up by the Commission des titres (qualifications commission) attached to the Ministry of Education (which thus exercises some supervision) are required to train engineers to a standard defined as follows: "An engineer must have a good basis of general education combined with special technical training so as to provide him with the mental equipment needed to plan, design, direct and organise production or construction work". In practice, this definition applies to both the multi-discipline training establishments (Polytechnique, Centrale, etc.) and those specifically catering for a given industrial sector, and standards may vary widely. This is quite obvious, as we saw earlier in considering the preparatory classes.

D) Relations between University, Grandes Ecoles and Industry

On the assumption that scientific or technical creative talent is revealed before the age of 30, the pace of technical progress today demands that scientific research and training should not be isolated from the outside world, as it too often still is in the universities and Grandes Ecoles which could greatly benefit from reciprocal exchanges of teaching staff and graduates. Three remedies seem to be favoured: to increase the number of colleges and the size of classes (which varies widely), to guide more students towards research work, and to establish or relocate such schools in the light of regional needs.

1. Increasing the number of colleges and graduates

Internal promotion still takes place on a large scale in industry. This is undoubtedly a good thing provided that it remains within reasonable bounds, especially at a time of accelerated technical progress. There are at present about 24,000 students in the 120 engineering schools, representing 8 per cent of total student numbers. Thus, 9,000 engineering students graduate each year, instead of the 12,000 indicated in the Fifth Plan. The Grandes Ecoles are generally rather reluctant to increase their graduates, although some have done so. One possible solution would be to establish provincial colleges paired with the Paris colleges.

2. Steering the pupils of the Grandes Ecoles towards research

We are not so much concerned here with fundamental research, for which the university is still the best place, but with applied research in industry. Few students in the Grandes Ecoles turn to research work; this is a serious matter considering that they account for one-third of the total number holding the baccalauréat in mathematics. There are, however, some notable exceptions: the great majority of students in the teacher training colleges do, in fact, take up research, and about 30 or 40 per cent of those in the national engineering schools. The other Grandes Ecoles (Polytechnique, Centrale, Mines) are deplorably backward in this respect considering the importance of new inventions for economic development. The ideal proportion would seem to be somewhere around 20 per cent. If this goal is to be achieved, the councils set up to consider ways of improving the schools (comprising teaching staff and "customers") will have to revise the curricula paying more attention to the nation's long-term development needs than to the immediate requirements of industry, as at present. Furthermore, all the Grandes Ecoles should have their own research laboratories.

3. Regional distribution of the Grandes Ecoles

There are two possibilities: one is the relocation of the multi-disciplinary Grandes Ecoles of Paris in the greater Paris area; another is the decentralisation of the specialised Grandes Ecoles to meet the specific needs of the regions.

a) Relocation:

The HEC, the Paris School of Mining, the Centrale and the Polytechnique will gradually be transferred to the south-western suburbs of Paris, where adequate premises and equipment will be provided. In fact the HEC and Centrale have already been transferred.

b) Regionalisation:

The idea is to achieve a better balance between Paris and the provinces which at present is overloaded in favour of the former. The shortage of schools of science in the provinces seriously prejudices the country's internal equilibrium. The training system must be brought into closer contact with industry: this is essential both for the quality of the teaching staff, many of whom are drawn from industry, and for the efficient organisation of in-firm training courses. A good example is the way the aeronautical industry in the south-west has benefited from the concentration in Toulouse of the Sud-Aviation works and the School of Aeronautical Engineering.

Another large-scale operation designed to develop the electronics industry in Brittany was planned for 1970 at Rennes where the Army School for Wireless Operators, the National School of Electrotechnics and the National School of Telecommunications will gradually be transferred. The specialised third-year courses will be the first to move.

This policy for more balanced regional development has the great advantage of bringing students and technicians, industry and graduates closer together, and promoting fruitful contact between trainers, trainees and the user sector.

4. Two specific examples

Apart from these general policies and projects, there are two specific cases where the links between the Grandes Ecoles, universities and scientific research have been strongly encouraged, namely in the ENSI's and INSA's.

a) The ENSI's (National Schools of Engineering). These represent an effort by the university to respond to consumers' requirements. They were established in 1947 in the form of university institutes, and subsequently converted into schools of engineering. Despite their growing independence, these schools still have some links with the university. Students are recruited by competitive examination, after one or two years' preparation, from among students from special mathematics classes and students who have completed a first-cycle science course. About 10 per cent of the total number are admitted on the strength of their qualifications; candidates holding the Certificate of Higher Studies (CES) in at least five subjects, as well as propédeutique are generally drawn from the university science colleges (CSU's) established in 1958 as embryonic faculties providing decentralised first-cycle courses.

The system of education is rather novel: the pupils follow the university courses interspersed with special classes in the college, to cover a specific programme for each type of engineering concerned; the programmes are drawn up by the college council. The attendance requirements, however, are very similar to those in the Grandes Ecoles: regular attendance at all classes is compulsory, but the university course leads to the university examinations. As a result, many ENSI engineers are also university science graduates. Many students also study for a doctor of engineering degree, a university doctorate or a state doctorate.

There is no competitive examination at the end of the course, but the diploma awarded takes into account the average mark obtained. Finally, the ENSI teaching staff includes academics, technical instructors, experts and businessmen. The whole ENSI organisation depends on close interaction between engineering college and university, so that many students tend to turn to research.

b) The INSA's (National Institutes of Applied Science). The three INSA's at Lyon, Toulouse and Rennes take about 1,000 trainees. The first was set up at Lyon in 1957. Their aim is to train engineers and carry out research. Students are admitted at baccalauréat level(1). The training comprises a two-year course at first cycle level in a CSU, followed by three further years of study. Formal lectures are restricted to six hours a week, but resident students spend a fair amount of time on supervised studies and practical work, under the control of a large number of assistants. There is also a humanities department, providing instruction centred on modern languages, administrative, economic and social problems, practical exercises in drafting and public speaking, with occasional informative talks about careers, and some physical education. At the end of the first cycle, the students go on to one of two sections, according to the capacities they reveal; the first provides a course in more theoretical general technology (at licence level), the other in practical technology. The general technology section is of Grande Ecole standard, and trains planning engineers in three years. The practical technology section also takes three years and trains production engineers. The scholastic year of 32 weeks is much longer than in the universities.

Four groups of courses are available:

- physics: electronics and physical engineering;
- chemistry: general chemistry and bio-chemistry;
- engineering: civil engineering, mechanical engineering;
- practical technology: electrotechnics and applied mechanics.

At the end of the first year, all pupils do a month of in-firm training on the factory floor; the practical technology students do a further five months of technical in-firm training during their second year. The INSA's thus provide their own type of training, somewhere between that of a Grande Ecole and the university.

Once the Guidelines Act for Higher Education (1968) had been adopted, the problem then arose of breaking down the barriers between the Grandes Ecoles and the new universities(2). The National Colleges of Engineering and some other colleges administered by the Ministry of Education (such as the College of Modern Oriental Languages) can be attached to the new universities while preserving their independence in the matter of syllabus (for example by retaining an entrance examination for certain courses), administration and finance. A case in point is that of the National Colleges of Engineering (administered by the Ministry of Education) which have established new, closer links with the universities.

By Decree of 15th October, 1969, 33 ENSI were attached to universities or formed National Polytechnic Institutes in three different ways:

- some (11 small ENSI) were made into UER's with a waiver;
- eight of them (the largest) are public establishments of a scientific nature;
- fourteen others were merged to form three National Polytechnic Institutes, namely Grenoble, Nancy and Toulouse, and could serve as the starting point for universities of technology which have a more direct vocational purpose. This will naturally take time: similar types of education are being developed in the new universities, and they will certainly bring into question the entrance examination system used in these colleges, despite the wider access now granted to students from various levels of the faculties of science.

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1) Some students were admitted on their merits, after a personal interview.

2) Annex XI attempts to classify the Grandes Ecoles and other establishments according to the supervisory authorities to which they are attached.

Chapter III

EDUCATION NOT ORGANISED BY THE MINISTRY OF EDUCATION

Although the Ministry of Education is responsible for most education, some educational activities are outside its competence.

A number of ministries have responsibilities for vocational training, either at secondary or higher level (some of the Grandes Ecoles, including the engineering colleges). But parallel with technical state education, which is not administered by the Ministry of Education, denominational and non-denominational higher education is available, the structure of which is firmly based on that of general or vocational public education and is the responsibility of the Ministry of Education.

I. PUBLIC EDUCATION

Many ministries are responsible for training activities concerning technical or non-university higher education. It is the Ministry of Agriculture, however, which has most responsibility in this respect.

A) The Ministry of Agriculture

After 1938,and particularly after the Acts of 1941 and 1943, post-school agricultural education became compulsory in the rural areas before the legal age for employment, and agricultural education as a whole was arranged in three stages until the reform of 1960. Before that date, post-school agricultural and rural domestic science education was placed under both the authority of the Ministry of Education and the technical supervision of the Ministry of Agriculture, while secondary agricultural education (courses on winter farming, practical schools, regional schools) and a large part of higher agricultural education were the direct responsibility of the Ministry of Agriculture. The Act on agricultural vocational training of 2nd August, 1960,modified the structure of agricultural education by extending compulsory schooling and strengthening the relations between these two Ministries. The Ministry of Education regards the new agricultural schools and lycées as technical establishments equivalent to technical commercial and industrial schools and lycées awarding diplomas that are recognised as being on a par with technician's certificates awarded in state education.

The Ministry of Agriculture, as in the past, gives technical assistance in training teachers, in agricultural vocational education, and in basic education suitably adapted to rural life which is given in the practical terminal classes. The Ministry of Education supplies teachers for general education and for preparatory classes leading to entrance examinations for national schools and the National Institute of Agriculture (INA).

In the light of its own functions, the Ministry of Education hopes that general training for everyone will be provided by university graduates but that technical training will remain the responsibility of the Ministry of Agriculture.

1. Agricultural education in France before 1959-60

There were three stages in state education:

a) Stage I (elementary education): post-school agricultural courses

This part-time education was for boys and girls who had returned to their parents' farms between the ages of 14 and 17. There were 70,000 children taking these courses in 1960. On completion of the course, a post-school agricultural certificate was awarded.

Practical schools of agriculture

These schools recruited pupils at the end of compulsory schooling regardless of whether they held the certificate of primary education or not. Studies led to the agricultural apprenticeship certificate. This was a more practical than technical type of education, offered on a farm attached to the school. There were also correspondence courses (roughly 20,000 students).

b) Stage II (secondary education: regional schools of agriculture)

These schools at technicians' level led to what was called the secondary diploma. The training given in these schools was purely vocational, general education being very slight indeed.

c) Stage III (higher education): a group of higher education establishments at the level of the Grandes Ecoles for engineering.

These colleges are headed by the National Institute of Agriculture (INA) and the Colleges of Agricultural Education at Grignon, Montpellier and Rennes.

The main feature of this education was that there were too few students in comparison with the corresponding labour force; thus for Stage I in 1960, public and private education as a whole covered almost 210,000 students (14 to 17 years old) with only 14,000 diplomas. Wastage was very high indeed and the percentage of future farmers receiving sufficient elementary vocational training was put at 15 per cent. Secondary education was hardly developed at all and only about 4 or 5 per cent of the future farm managers, technicians, middle executives, both male and female, needed in agriculture were trained at this level. Stage III, in comparison to standards applied in 1960 by the most developed countries (the Netherlands, for example), was available to only about 500 agriculturists.

2. Re-organisation of agricultural education, the Act of 5th August, 1960, and its applications

The principles laid down by the Act are as follows:

General education given in agricultural education establishments must be at the same level as in similar state education establishments. Teaching and curricula must be adapted to the psychology of children from a rural background. The transition from general to vocational training must be gradual.

The practical schools become agricultural schools, the regional schools become lycées, and post-school courses are being changed into vocational education sections.

a) Secondary education

On completion of the first cycle of secondary education (when it has been standarised throughout the country), pupils wishing to take up agriculture will have three choices: one short, one medium and one long cycle. These three cycles were provided for under the 1960 Act but are being re-organised on the basis of a four-year rather than a two-year first cycle. A description of the present organisation of the four-year course is given below.

Cycle I or the short cycle

There is a one-year general agricultural training (at second form level) which leads to the certificate of agricultural apprenticeship (BAA). Those wishing to do so can specialise for a further year. This training leads to a vocational certificate in any one of fifteen specialisations.

Cycle II or the intermediate cycle

Following on from the first cycle, this stage consists of a one-year general training at a higher level than the above and leads to a certificate of agricultural education (BEA). Beyond that, students can take the two year specialised training (twelve specialisations) leading to a technician's diploma.

Cycle III or the long cycle

There is a long general agricultural education which, in three years, leads to the agricultural technician's baccalauréat. This diploma offers the possibility of earning in two years the higher technician's certificate, to sit the entrance examination for higher agricultural education establishments, or to enrol in one of the university science faculties subject to the approval of the dean.

There are two types of establishments: "collèges" offering cycles I and II, and "lycées" for cycles II and III.

In 1967, enrolments were as follows:

- 5,800 students in the first cycle;
- 9,900 students in the second cycle;
- 9,400 students in the third cycle;

b) Higher education

This consists of two broad categories:

i) a long cycle which includes:

- the National Institute of Agriculture in Paris (INA);
- the National Agricultural Colleges (ENSA) at Rennes, Grignon, Montpellier, Nancy and Toulouse;
- the three practical colleges of the above:
  - the National College of Agricultural Engineering;
  - the National College of Applied Agricultural Sciences at Dijon;
  - the College of Tropical Agriculture at Nogent-sur-Marne;

to which will be added after their reform:

- the National College of Horticulture at Versailles, the National College of the Food and Drinks Industries of Massy-Douai.

ii) a short cycle which includes:

- National Colleges for Farming Techniques (Bordeaux and Dijon), Forestry (Nogent) Agricultural and Drainage Techniques (Strasbourg);
- the National Colleges of Agriculture for Women at Rennes, Toulouse and Clermont-Ferrand.

Another way of classifying these agricultural colleges is as follows:

There are 14 general colleges (nine state and five private) and 17 more specialised colleges (14 public and three private).

Three of these colleges are administered by the Ministry of Education: the ENSA's at Nancy and Toulouse, and the College of Applied Brewing and Bio-chemistry at Nancy.

From 1970 onwards the INA and the ENSA's will recruit through a single competitive examination. Four-fifths of the curricula of these establishments will be standardised, the remaining one-fifth being set aside for each college's respective specialisation. Economics and market problems are dealt with extensively in the curricula.

The possibility is at present being considered of arranging for agriculturists to earn the science doctorate by jointly awarding, on completion of three years' higher education, the diploma of expertise in agriculture and specialist husbandry, this being equivalent to the DEA(1) in science.

B) The Ministry of Cultural Affairs

Artistic education was an integral part of the Ministry of Education until 1959 but is now mainly the responsibility of the Minister of State for Cultural Affairs. It consists of two main sections: architecture and the fine arts; music, dancing and drama.

1. Architecture and the fine arts

This covers higher and intermediate education.

a) Higher education

There are two national academies: the National Academy of Fine Arts in Paris, with 13 associated Regional Schools, has three sections: architecture, painting and sculpture.

The architecture section leads to a state diploma in architecture (DPIG). The Special College of Architecture and the section of architecture in the National Engineering College at Strasbourg, which are administered by the Ministry of Education, award an architect's diploma.

The painting and sculpture sections lead to a diploma in the plastic arts.

The National Academy of Decorative Arts offers a three-year general education, with a fourth year for specialisation, leading to the Academy's own diploma in decoration.

A certain number of changes have been made in the structure of establishments as a result of the reform of higher education following the 1968 May events.

In architecture, competitive admission has been abolished; registration is automatic for pupils with the baccalauréat.

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1) Duplôme d'études approfondies (Diploma of advanced studies).

As regards the education itself, the reform is based on three principles: autonomy and a single framework, participation in the management of education and co-operation with universities.

The entire student body is divided into teaching units composed of 400 to 500 students. There are five for the Academy of Fine Arts in Paris; each of the 13 regional architectural schools consists of one teaching unit, making 18 units in all. Some schools are differentiated on the basis of three different streams: exact sciences and technology, social sciences and economics, and environment. Each unit enjoys educational autonomy within a single general framework which determines the length of study, the nature of the basic disciplines and the conditions of award of a national-status diploma. The study period is set at six years, divided into three two-year cycles. The first cycle provides a common core and scientific subjects would predominate; each cycle will be certificated by a nationally recognised certificate. Knowledge monitoring would be continuous. Conditions for obtaining the diploma would be relaxed. Every teaching unit would have its own four-man assessment panel, including two architects.

The diploma award would take into account the overall results of the student's schooling, together with all professional, teaching, research and reflective work the student may have been associated with. The Prix de Rome is abolished.

The management of each teaching unit will be the responsibility of an equal number of students and teaching staff elected by one-stage list ballot. The management board will decide the teaching unit's study programme and prepare and put into effect the budget.

Lastly, closer ties will be formed with the university. Completion of each cycle will lead to a university certificate; this will provide a means of crossing over, at equivalent level, into other higher education and research units.

As regards the plastic arts, the reforms are considerably smaller in scope. On a provisional basis, pending the development of new courses, a basic studies cycle will be instituted, featuring a two-year full-time programme leading to higher artistic training that could be provided by the Ecole nationale supérieure des arts décoratifs or by a special establishment devoted to environmental problems. These, so far, are only plans.

As regards the immediate present, the conditions governing the award of the diploma have been changed. The diploma now involves three certificates (associated science, general culture and technique) for this section and a final test consisting in the presentation of a collection of personal work to a jury panel.

b) Intermediate education

There are 6 national colleges and 58 regional and municipal schools. They prepare students for two qualifications: the Proficiency Certificate for Higher Artistic Training (CAFAS). This gives access, under certain conditions, to the National Academy of Fine Arts and the National Academy of Decorative Arts. These schools, on completion of two years' training after the CAFAS, award a national diploma of fine arts in seven sections. There are national, regional and municipal schools of various levels, to which baccalauréat holders are automatically admitted, while 14 to 17 year olds are recruited by an entrance examination according to the school concerned.

2. Music and the dramatic arts

Higher and intermediate education are available.

A) Higher education

This is provided partly by the National Conservatoire of Music and also by the National Conservatoire of Dramatic Art.

Musical training is very complex; there are 42 subjects for roughly 1,100 students. Duration of studies is between three and eight years leading to first and second prizes in each subject.

The 100 or so students in the National Conservatoire of Dramatic Art study for three years culminating in a public competition.

As regards the National Conservatoire of Dramtic Art, some changes have been made to a type of education which otherwise has retained its traditional form. A certain number of teachers have been appointed for their teaching ability in both individual and general training classes. An autonomous section where students will direct their own work has also been created. Lastly, a certain number of new subjects has been incorporated (cinema, diction, stage technique, etc.).

To bring the Conservatoire closer to the university, common core studies will later be introduced for students of the Sorbonne Institut d'études due theatre, the Université internationale du théatre and the Conservatoire of Dramatic Art.

* * *

B) Intermediate education

There are 45 schools of music in the provinces providing education at four levels for amateurs and professionals. The school diplomas awarded differ greatly as to level. Overall, the main principles can be summed up as follows:

- introduction of student representation, less developed in general, that at university(1);
- organisation of more integrated and modern education programmes;
- setting up of a more flexible knowledge assessment system, with the final examination no longer the sole factor;
- establishment of close ties with the university.

This is the starting point for the decompartmentation of education which, though not yet systematic or uniform in its various applications, is nonetheless considerable. Although a large part of artistic education is placed under the authority of the Ministry of Cultural Affairs this is not true for the whole, and the Ministry of Education is still responsible for some sections:

- training for a state teaching certificate in music, drawing and the plastic arts;
- colleges of applied art related to technical education (Boulle technical lycée, school of art, crafts, etc...)

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1) One-third of the members of the school improvement boards must be recognised personalities from outside the university.

Some fields of activity are often very close but the colleges of the Ministry of Cultural Affairs incorporate the major artistic subjects in depth in the education they provide.

C) Ministry of Defence

This Ministry organises three types of education: higher education covering the military Grandes Ecoles(1) for the army, the navy and the air force, one of the best known being the Polytechnic;

- technical education for technicians in the navy and the air force;
- vocational training leading to a trade proficiency certificate, equivalent to those in technical education, relating to careers in mechanics or electricity.

D) Ministry of Youth and Sport

This Ministry provides training for various teachers of physical education and sports.

Prior to 1968, physical education and sports teachers (equivalent to assistant teachers in lycées) were trained in Regional Institutes for Physical Education and Sports in order to teach at secondary level(2). These regional institutes are being made into UER's and attached to the new universities. In the former system, teachers were trained in two Ecoles normales supérieures (advanced training colleges) for physical education and sports - one for men and one for women - for a proficiency certificate or the physical education and sports teacher's certificate (CAPEPS). All this organisation has been changed. There is only one ENSEPS (Advanced Training College for Physical Education and Sports) which trains teachers for UER's, and also those with positions of responsibility in the Ministry of Youth and Sport.

The new college consists of three departments:

- the advanced studies department training teachers for UER's;
- the refresher course department;
- the research department for therapeutic applications, teaching methods and techniques.

E) Miscellaneous

At higher education level, the Ministry of Industry controls a certain number of engineering schools(3). Regarding adult vocational training, it supervises the action of craft guilds and chambers of commerce and industry.

The Ministry of Justice is responsible for supervised education, i.e. education provided for juvenile delinquents.

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1) See the end of Chapter II which precedes the section devoted to non-university higher education.

2) Class teachers are responsible for physical education and sports in primary schools. In addition, some teachers in the CEG's are specialists in this subject.

3) See the end of Chapter II which precedes the section devoted to non-university higher education.

The Ministry of Health provides schooling in special establishments for maladjusted children who are in need of constant medical supervision, regardless of whether they are mental or motor defectives.

The Ministry of Transport trains staff of all kinds for air, sea, rail and road transport. Some of those at Grandes Ecole level are as follows: National College of Civil Aviation, National College of the Merchant Navy which recruit students through a competitive examination on a par with the preparatory classes for the Grandes Ecoles. There are a certain number of engineering and technicians' colleges which, for the most part, recruit through a post-baccalauréat competitive examination.

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These various types of education differ widely. It is very difficult to have an idea of how the size of enrolments in these types of education at the various levels compares with those under the Ministry of Education. In 1966-67, for higher education alone, the number of students in the Grandes Ecoles (not registered in faculties) was estimated at 43,000 disregarding the ministry responsible. Numbers are unevenly divided between one ministry and another but the Ministry of Education is responsible for only one part of vocational training.

Parallel with public education, there is private general and vocational education.

II. PRIVATE EDUCATION

Private education provides primary, secondary or higher general education, and even vocational education which is nevertheless more limited.

General education is organised on the same lines as state education. It may be denominational or non-denominational, but as far as primary, secondary and university education are concerned, private education tends to be mainly catholic.

Table 85 gives the percentage breakdown for private education at various levels for 1958-59 and 1967-68.

TABLE 85

The Share of Private Education at Various Levels
by Comparison with State Education for 1958-59 and 1967-68

Education Level	Per cent for 1958-59	Per cent for 1967-68
Pre-school	17.3	15.15
Primary	16.4	14.00
First cycle	25.3	17.05
Short second cycle	53.7	44.05
Long second cycle	39.7	37.7
Independent universities	?	0.02(1)

Source: Ministry of Education: Statistical tables for 1958 to 1968.

1) At this time, there were 10,000 students in independent universities. Since the problem arose of equivalence of study with state education in the context of educational independence, this number has dropped by 30 per cent.

Thus, throughout the period in question, the share of private education has declined at all levels (particularly at the first-cycle level, CES's have not in general been established for private education).

Chapter IV

CONTINUING EDUCATION AND SOCIAL ADVANCEMENT

The gathering pace of technical progress and its spread to all productive activities is the main cause of a fairly complex process of re-organisation in the French economy, which manifests itself in many different ways:

- changes in the relative importance of the major sectors of activity (a decline in agriculture and an advance of the tertiary sector);
- the rapid development of new industries and a slower decline in traditional industries;
- reorganisation of the French productive mechanism (concentration and modernisation of firms);
- general rise in the level of skills. This is apparent at the level of occupations (relative increase in the number requiring high qualifications) and in each trade, where the proportion of skilled workers is progressively increasing.

One of the most important factors for meeting these needs is the role of vocational training and continuing education. These two concepts do not overlap: while occupational upgrading has already gained ground in France, the concept of continuing education as such is much wider and implies a much broader range of action covering the whole education system. Although since the Guidelines Act on Higher Education a number of decisions taken, in particular on the conditions for university entrance, will enable a continuing education policy to be defined in future, specific action in this area is still very fragmentary and not yet integrated into a comprehensive policy.

So as to give an overall view of the matter. this chapter consists of three sections:

- social Betterment;
- the Guidelines and Syllabus Act on Vocational Training;
- progress towards continuing education.

I. SOCIAL BETTERMENT AND THE ROLE OF THE MINISTRY OF EDUCATION

At present, social betterment, or occupational upgrading, affects roughly 400,000 people a year (as far as can be assessed), i.e. only about two per cent of the labour force, which is very little. Taking together the action of the Ministry of Education (courses provided by the state and local authorities), that of the Chambers of Commerce and Industry, Craft Guilds, private courses, the Ministries of Agriculture and Labour, the share of state education in the total amounts to 45.7 per cent. The National Correspondence Course Centre plays a very important part in social betterment and the National Conservatoire of Arts and Crafts in occupational advancement.

Taking into consideration the level of qualification required, these post-secondary occupational upgrading activities can be divided into two groups: social betterment proper, and occupational upgrading.

Social upgrading covers training for skilled and highly skilled manual and clerical workers, technical executives and technicians (levels IV and V in the qualifications scale): in 1968-69 there were 236,700 students enrolled in courses (public and private courses that had requested a Ministry of Education grant, and the National Correspondence Course Centre) which were under the responsibility of the Ministry of Education. A further 50,000 officials must be added to that figure, who were trained full-time through the Adult Vocational Training Scheme under the supervisory authority of the Ministry of Labour and the Ministry of Agriculture. At this level, the Ministry of Education is responsible for roughly 40 per cent of the total enrolments.

The concept of occupational upgrading was promoted mainly as a result of the Act of 31st July, 1959, and institutes for this purpose were set up within the university system. Other bodies providing such training under the authority of the Ministry of Education are the National Conservatoire of Arts and Crafts (CNAM) with its 22 associated regional centres and the National Correspondence Course Centre. These bodies as a whole in 1968-69 trained 88,900 students for whom the Directorate of Higher Education is responsible. The training given relates to levels I, II and III of the qualifications scale.

A) Social Betterment

Basic or refresher training or retraining is provided by many bodies under the authority of the government, professional associations, firms, or private enterprise.

1. State action

a) The Ministry of Education

i) State courses run by the Ministry of Education provided training for 66,200 students in 1968-69 (specialised and skilled workers, and foremen). Courses are given either orally (usually evening classes) or by correspondence.

ii) Schools

Some schools are organised in such a way as to provide basic or refresher training for adults: certain Collèges d'enseignement technique or technical lycées offer vocational education either in the evenings or on Saturdays.

iii) National Correspondence Course Centre (CNTE)

This comprehensive establishment (it also offers scholastic education) has its headquarters in Vanves and has three regional centres at Lille, Lyons and Toulouse. Correspondence courses are organised with study days every three weeks for some pupils in outlying areas. For purposes of social upgrading (levels IV and V), the CNTE trained 36,700 students in 1968-69 which is a much lower figure than that for 1967-68 (53,900).

b) Ministry of Social Affairs

Training is given by public centres under the authority of the Association for Adult Vocational Training (AFPA), and by registered centres(1). Enrolments were estimated as follows:

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(1) The registered centres entered into agreements with public authorities under the Act of 1966 (See II below).

1964: 32,700
1965: 38,000
1967: 47,800
1968: 50,000 approximately.

Training for which the initiative and management is State-supervised is offered to employers and workers organised collectively. It can claim good results and is rapidly expanding. It fulfils the clearly defined objective of speedily meeting the short- and medium-term needs of the economy by full-time accelerated training (6 months). In this way any possible bottlenecks of manpower can be rapidly relieved. The training offered is constantly being updated, and is always related to employment market conditions.

Regarding the level of qualification obtained, 92 per cent are skilled workers (level V) and 8 per cent technical executives or technicians (level IV and sometimes level III).

The most highly developed sectors are construction and metals. These are followed by "miscellaneous" which includes office work and commerce, chemistry, plastics, hides and leather, clothing textiles.

This type of training is essentially for young people. In 1965, 15 per cent of all students were over 25, while 55 per cent were 20 or under. The starting standard is often very low: in 1964, 39.8 per cent of enrolled students (mainly in building) did not hold a certificate of primary education.

Refresher training is more common than retraining since, in the same year, 70 per cent of trainees were employed in the same sector before enrolment.

c) The Ministry of Agriculture

This Ministry administers roughly 100 upgrading centres which, since 1966, have been known as Agricultural Training and Upgrading Centres (Centres de formation et de promotion professionnelles agricoles - CFPPA). The main purpose is to help adult farmers, family-farm workers or children in agricultural schools to acquire general and specialised vocational knowledge.

The first level of this training leads to the agricultural vocational certificate. In 1967, these centres enrolled 5,450 trainees.

There is also an extension effort to increase productivity at farm level, which operates through subsidised farmers associations. In 1966 this activity affected 296,500 farmers.

The Act of 3rd December, 1966, made this extension effort into a development effort with broader aims relating to applied agricultural research, improved production and regional development.

2. Community action

This action may be taken by local authorities or private organisations.

a) Municipal courses have been introduced, particularly in large towns. Total enrolments in 1968-69 were 9,800 students.

b) Private courses are those courses organised by the Chambers of Commerce and Industry (9,950 students in 1968-69) the Craft Guilds (12,500 trainees in 1968-69) and other private bodies (130,350 for the same year). All of the above-mentioned courses receive a Ministry of Education grant.

3. Action by industry

Large firms or groups of firms provide basic training, updating and refresher training for adults. It is difficult to form a complete idea of their activities since statistics are few and far between; only the major schemes will be discussed here. At national level they are as follows:

- the Federation of Mechanical Engineering Industries;
- the Union of Metal-Works and Mining Industries;
- publicly owned companies: French Electricity Board and the French Rail (Société nationale des chemins de fer français);
- the Central Co-ordinating Committee for Apprecticeships in Building and Public Works.

There are some regional organisations as well.

4. Independent activities

These are activities carried out by centres with private status and are not sponsored by any trade or profession. With regard to upgrading as such there is little to be said.

B) Advanced Vocational Training

In addition to the activities cited above concerning skilled manpower for grades V and IV, advanced vocational training of a higher level is available for grades I, II and III. Main activities are as follows:

1. State action

The Ministry of Education

The National Conservatoire of Arts and Crafts

This long-established body has from the outset specialised in post-school education. In particular, it organises advanced adult education at technician level. In 1968-69 roughly 40,000 students enrolled for various preparatory classes. This figure covers a widely differing public: 5 or 6 per cent of the total number are highly qualified people wishing to study in detail one particular area of their training in view of the direction their responsibilities are taking.

Two-thirds are technical executives, foremen and clerical workers in commercial companies who wish to obtain one or two certificates in their subject.

Roughly 10,000 are trying to obtain a diploma in engineering. Despite the length of studies (7 or 8 years), diplomas in engineering awarded by the CNAM in 1967 amounted to roughly 2.7 per cent of the total number of diplomas in engineering awarded in France.

The National Correspondence Course Centre (CNTE)

In addition to social advancement activities as such, the CNTE in 1968-69 had 5,900 students taking occupational upgrading courses, i.e. 16 per cent of the total number of adults registered at the Centre.

University institutes of advanced vocational training

Institutes operating within the university system have been set up since 1959 for adult workers at technician level. These institutes as a whole, in 1968-69, trained more than 5,000 students. The most dynamic and well-known institutes are those at Grenoble and Nancy, the latter of which, alone, trained roughly half the total number.

Again in 1968-69, roughly another 5,000 students were trained in centres attached to public establishments(1) or private higher education establishments.

2. Action by industry

At higher executive level, it is difficult to know all the possibilities available. However, there are the Information and Refresher Sessions for Executives (SIPCA). This association, set up in 1955, covers several companies centred on Air France. The education offered is of a high level, based on management , methods and economic and social forecasting. In 1966-67, the centre took roughly 600 executives for short sessions (roughly fifteen days). The engineering associations are also concerned with refresher training for executives.

3. Independent activities

The most important organisation is the Centre for Higher Industrial Studies which enrols 2,000 engineers and executives a year for sessions lasting between 5 weeks and 22 months. The organisation is tripartite (state, employers, personnel) and in 1970 the Centre provided 20,000 man-weeks' training in five establishments scattered throughout the country. From the point of view of intake, the General Commission of Scientific Organisation (CEGOS) must also be mentioned: this organisation provides study sessions lasting four or five days each, attracting 6,000 executives a year. There is also the Society of Economics and Applied Mathematics (SEMA) and the Institute of Sciences and Social Techniques (Institute des Sciences et Techniques Humanines - ISTH).

For adult education to be as efficient as possible, specific teaching methods had to be used depending on the special characteristics of the students. Research work was undertaken from 1963 onwards at the National Institute for Adult Training (INFA) at Nancy.

This brief survey gives an idea of the different activities undertaken to further adult refresher training. However there are still very few enrolments. A need for synthesis has become apparent at two levels:

i) As a result of the reform of short and long secondary and higher technical education, basic and refresher training had to be integrated in a common policy.

ii) Various refresher training activities had to be co-ordinated in order to ensure greater efficiency and to offset deficiencies. The Guidelines and Syllabus Act on Vocational Training of 3rd December, 1966, set up the structures required for these objectives to be achieved in the future.

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1) Preparatory centres for business administration attached to the former law faculties.

TABLE 86

Special Betterment and Continuing Education in 1968-69

Activities	Enrolments
I. Social betterment	
State courses (ME)(1)	70,000
Local government courses ME)(1)	9,850
Private courses	
Chambers of Commerce and Industry	9,950
Craft Guilds	12,520
Other	130,350
CNTE	36,700
Ministry of Agriculture	11,500
Ministry of Labour	40,000
Total	320,870
II. Advanced vocational training	
University institutes	5,000
CNAM	40,000
Other (higher level)	38,000
CNTE	5,900
Total	88,900
GRAND TOTAL	409,770

Source: Note d'Information No. 44 by the Ministry of Education.

1) Ministry of Education.

II. POLICY OF VOCATIONAL TRAINING AND THE ACT OF 3rd DECEMBER, 1966

Vocational training, which is an integral part of education, nevertheless transcends the limits of school and university proper, and the Act of 3rd December, 1966, introduces a policy embracing all training activities at all levels. To this end, it lays down the guidelines of the policy, the institutional framework and the bases for developing vocational training.

The Act sets forth two broad principles: vocational training is a national obligation and forms an intricate educational complex. Vocational training is a national obligation in the same way as compulsory schooling. The guarantee of economic and social development is no longer to be found in training given once and for all in the light of short-term needs estimated with varying accuracy, but in vocational training available to everybody and sufficiently open-ended to allow the necessary adjustments in the course of working life.

Looked at from this point of view, training of this kind can no longer be left to the traditional school system alone. The need to keep knowledge constantly up to date precludes us from treating the rudimentary training acquired at school as sufficient in itself, and renders it essential to make continuing education available throughout their active life to all those who wish to perfect or refresh their knowledge or to better themselves. Teaching establishments thus become places of training which must be used to the best advantage so that the university and the school can become the instruments of continuing education and can resume their place as centres of culture and progress.

The institutional organisation of vocational training is based on co-ordination and concertation.

At government level, co-ordination is in the hands of the Prime Minister who is chairman of a committee of ministers consisting of all ministers concerned. A standing group of senior officials briefs the committee and has a common statistical service with the Commissariat Général du Plan.

At regional level, there is a standing group of officials under the chairmanship of the regional prefect. Concertation is also organised at government and regional levels. The central body is the Conseil national de la formation professionnelle de la promotion sociale et de l'emploi, which is made up of delegates from organisations representing employers, wage earners and independent workers. They are serviced by a common secretariat with the standing group of senior officials (Committee of Ministers) and the Conseil national de la formation professionnelle. At regional level, these regional committees for vocational training, social betterment and employment include representatives of the various occupations, individual memebers with special qualifications and senior officials; they investigate employment problems in their region and the necessary vocational training action.

As regards the development of training, the Act of 3rd December, 1966, provides for the reinforcement of the training mechanism and the diversification of the conditions in which it is used. The Act provides for three-year programmes for the equipment of technical secondary schools, university institutes of technology, agricultural technical establishments and accelerated vocational training centres, so that these new types of establishments can be set up as soon as possible.

In addition to direct action in the schools and universities, actions of a new type will be undertaken through agreements between the state and trade associations. This new type of concerted action will use existing or newly created training facilities and will be financed from a special fund (vocational training and social betterment fund), itself financed by a budget appropriation and administered by the central co-ordinating bodies. There are three standard types of agreement:

- the creation of a training centre attached to an existing educational establishment;
- the creation of a centre attached to a private body, a firm or a group of firms;
- training measures connected with operations of economic conversion.

Liaison bodies at regional level were set up by a Circular of 4th July, 1966, amended and supplemented by a Decree of 26th April, 1968, namely the Regional Vocational Training Echelons (Echelons régionaux d'education professionnelle) EREP(1). In each

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1) This body has no administrative autonomy and constitutes a directing team made up of the chief inspector of technical training, the rector's counsellor of the academic region for higher technical education, a permanent secretariat and a working party responsible for studies of general problems or practical work on specific geographic and occupational sectors.

academic regions they take part in establishing the agreements, in activating and co-ordinating the various vocational training activities, and in the continuous supervision of the adaptation of the educational machinery to regional needs and its quantitative and qualitative development.

If they are to achieve their aims, these various training activities must be backed up by better knowledge of the needs of the economy. Research along these lines is conducted within the Office of the Commissioner-General for the Plan by the Vocational Training and Upgrading Joint Group which works in liaison with the Manpower Commission and the Commission on School, University and Sports Facilities.

III. PROGRESS TOWARDS CONTINUING EDUCATION

Real continuing, or permanent, education presupposes a large number of students and continuity in learning. Although the idea of the need for continuing education is very widely accepted, the conditions in France are not yet ripe for it to become a reality.

There are still far too few people receiving the various types of training, however widespread these may be, for continuing education to be regarded as established. The Act of 1966 mentioned in the above paragraph already facilitates co-ordination between the various bodies, and enables refresher training efforts to develop in line with national and regional targets. But there is still much to be done for refresher training to become universal before continuing education can be regarded as having become a reality.

The second condition concerns the school system itself where, despite recent reforms, the final goal will have to be re-thought. For continuing education to be a desirable commodity for adults, the school system has to be given a completely introductory character. As long as a diploma retains a definite utilisation value, students and parents will try for the highest diplomas possible. Therefore many students, spurred on by this ambition, stay longer in the school system than is necessary, thus delaying the choice of a career. This attitude is one of the causes of French education's poor output at all levels.

The outlook would probably be different if everybody realised that compulsory education was not a whole, that continuing training was a necessity in modern life and that there was a possibility of taking it up. In the present state of affairs, however, it seems that young people are saturated by a school system that they have used inadvisedly, thus not making the best of their capacity for abstract thought and training, still considerable in the first years of active life, which would facilitate the undertaking of continuing training. If those concerned are expected to show more interest in this matter, employers must for their part show more understanding, a lack of which only too often discourages those who are willing.

A third condition essential to setting up a system of continuing education is that school structures should be more open and that there should be a real involvement at all levels. In this respect, the Guidelines Act on Higher Education opens new prospects by emphasizing the fundamental role that higher education must play in various continuing education activities. Such a trend is likely to strengthen university independence through the close contacts implied with their environment.

The Regional University Associations for Adult Education and Training are to be set up to discover what the needs are and to meet them. Within the IUT, for candidates already in an occupation, refresher courses will be available suitably adjusted to the level previously obtained by the students through a system of "credits".

The development of continuing education presupposes research in the short and long term (based on very long term prospects) on economic and social trends. Better knowledge of the type of person and qualities and skills required in the future would enable school and extracurricular training to be organised accordingly and their co-ordination supervised.

A qualifications study and research centre (CERQ) has just been set up by the Ministry of Education which should in future provide valuable information as to the orientation of vocational training as a whole.

Continuing training presupposes greater flexibility of structures and the creation of many bridges facilitating the passage from one type of education to another.

A great step forward has already been made in this respect through the various reforms of the school system, a report of which is given in the following chapter.

Attention should also be called to the recent reform of the central administration of the Ministry of Education (March 1970) under which a Counsellor for Continuing Education has been attached to the Minister, and a Director for Objectives has been appointed to supervise guidance and continuing education. This affords further proof of the importance now being attached to the various forms of continuing education.

Chapter V

GREATER FLEXIBILITY OF STRUCTURE

We saw in the previous chapter that structures had to become more flexible within and outside the school system for effective continuing education to be set up.

In recent years the conditions of transfer from one type of education to another have been made easier. This effort was made in two stages:

i) A large series of measures was taken as a result of reforms in secondary and higher education from 1963 and 1966 onwards.

ii) Within the framework of re-organised higher education, and pursuant to the Act of 1968, these measures were again made more flexible.

I. IMPROVEMENT OF TRANSFER POSSIBILITIES IN 1963 AND 1966

A) Secondary Education

At this level the search for flexibility took the form of setting up adaptation classes (classes d'accueil). These classes had been in existence before the 1960 reform and their aim at that time was to make long education accessible to children who usually finish their compulsory education in terminal primary classes, or who would have had access to short secondary in CEG's. It should be noted that the possibilities of transfer were much more valid for pupils coming from short modern education than for those from terminal primary classes.

As a result of the 1963 reform, adaptation classes became the general rule within first cycle secondary education by the introduction of the transition cycle. By offering two years' active teaching, it aims to enable the greatest possible number of pupils to join one of the three sections of lower cycle secondary education.

For its part, technical education is tending to introduce adaptation classes in order to facilitate access to short technical education (this is a transitional measure until the reform is definitely achieved). Similar provision has been made for long technical education, on a permanent basis, to enable certificate holders from short technical education to train to become technicians, if they so desire.

The greatest effort has, however, been made in higher education.

B) Possibilities of Transfer from one Type of Higher Education to Another (Order of 11th July, 1966)

These depend on the system of equivalent grades and diplomas in higher education established by the Government Order of 11th July, 1966.

Opportunities for transfer are more numerous than they used to be (despite the more rigid structure of the science faculties and the more complex organisation of the humanities faculties), owing to the system of cycles and the efforts to harmonize the level of all the main types of first cycle courses, namely preparatory classes for the Grandes Ecoles, first cycle courses in the faculties and IUT courses.

The guiding principle seems to be that the more closely a type of education is geared to a specific occupation, the more difficult it is to change course. It is still much easier, however, to transfer from the Grandes Ecoles to the university than vice versa (although there are some signs of change), owing to the strong traditions of the Grandes Ecoles and appreciable differences in methods of training.

The transfer possibilities are listed below, by type of establishment. The system is of recent date, and is still too lacking in uniformity for any general rules to be stated.

1. Science faculties

a) Equivalent first cycle courses

i) Students from the Grandes Ecoles

The following are automatically considered to have reached DUES standard (university diploma in science awarded after the first two years of the first cycle course):

- students eligible (i.e. having passed the written part of the entrance examination only) for the four teacher training colleges (ENS's), science sections;
- students eligible for the Polytechnique (A' course in the preparatory classes);
- students admitted (i.e. offered places) to the Grandes Ecoles (after taking the two-year A, A', B or C course in the preparatory classes);
- diploma holders from the other engineering colleges included in the list prepared by the Commission nationale du titre d'ingénieur (national commission on engineering qualifications).

While such students are automatically accepted for enrolment in the higher course (for a licence or master's degree), they have to attend an interview with the Dean (or a board), and their academic record is examined; they are then directed to the studies or sections for which they appear best suited.

ii) Students from the faculty of medicine

Students are automatically considered to be of DUES standard if they have successfully completed their fifth year of medical studies, or have obtained the CPEBH (qualifying certificate for research in human biology), and passed the first-year examination in medicine.

No equivalent standard has been agreed for pharmaceutical students at this level.

iii) Students from faculties of humanities and law

No equivalent standards have been agreed at this level. Some arrangements might, however, be introduced under which individual students reading for a licence in psychology or economics would be granted a standard equivalent to the first year of the DUES, on the dean's recommendations.

iv) Students from IUT's

Students holding the DUT may be considered to have followed the equivalent of the first cycle course and be allowed to go on to the second cycle on an exceptional decision in each individual case taken by the dean on the proposal of the principal of the IUT concerned. The students are then advised to read either for a licence or for a master's degree.

b) Equivalent standards at licence level

No equivalent standard has been agreed. The special system enabling graduates, most of whom intend to take up teaching, to study for a master's degree will be described in the chapter on the teaching profession.

c) Equivalent standards at master's degree level

Graduates from schools of engineering which recruit from preparatory classes of the A, A', B or C streams are considered to have reached the equivalent of master's degree standard for the purposes of admission to third cycle studies. They are automatically eligible. This is a new development as under the old system engineers wishing to study for the doctor of engineering degree had to have three CES's in science subjects, as well as their engineering diploma; moreover, the doctor of engineering degree was of no great value. Now, the assumption of equivalent standards does not preclude the necessity of holding the DEA which for all science students will henceforth round off the first year of the third cycle course. The new system both upgrades the doctor of engineering degree and provides improved opportunities for transfer.

Furthermore, students who have successfully completed their sixth year of medicine, holders of the pharmacist's diploma and veterinary students in their final year (i.e. all students in these subjects who have completed their courses but not yet prepared their thesis) may also enrol for the DEA.

2. Humanities faculties

The humanities faculties are the most broad-minded in the matter of equivalent standards, of which there are many examples.

a) First cycle level

i) To start with, a standard equivalent to the first year of the first cycle course may be accorded by the dean on the strength of the student's qualifications, after consulting an official record, listing:

- the names of those holding the DUES;
- the names of those who have taken the second year of the licence course in law and economics;
- those who have passed the examination at the end of the second-year medical course;
- those holding HEC diplomas (Hautes études commerciales);
- students who have passed the examination at the end of the second-year course in the IEP's (Instituts d'études politiques);
- those eligible to enter the school of modern oriental languages at third-year level.

In psychology, a standard equivalent to the first year of the first cycle course is accorded by the dean to those holding the preparatory certificate in medical studies, or those who have followed the first year DUES course, on condition that they take an extra test during the examination rounding off the second year. Pupils who have completed their third year in the Ecole du Louvre (the last year before the higher course) are allowed to "skip" the first year of the initial course in art and archaeology. No decision has yet been communicated as regards the Beaux Arts and Arts Décoratifs.

ii) A standard equivalent to the DUEL (university diploma in humanities, the counterpart of the DUES) for the general or specialised licence or master's degree course, is granted by the dean to candidates holding a master of science degree in certain sections. The same applies to pupils eligible for the arts sections of the ENS's (teacher training colleges), and to those holding licences in law and economics.

No decision has yet been taken for those holding the DUT (university diploma in technology) in the tertiary sector, but the position will probably be the same as for the DUES.

b) Second cycle level

A standard equivalent to the master's degree may be granted for admission to third cycle studies on an individual basis after examination of the student's record by the Minister, if the student wishes to take a state doctorate, or by the dean if he wishes to take a university doctorate or a third cycle doctorate. In any event, even for masters of humanities, admission to third cycle studies is never automatic but invariably depends on a decision by the dean. With this proviso, an equivalent standard is accorded for masters of science, licentiates in law or economics, holders of diplomas from the IEP, the school of advanced practical studies, the school of palaeography and librarianship, and the school of modern oriental languages.

Lastly, the National Commission on Third Cycle Studies (attached to the Higher National Council for Education) may grant other exemptions for equivalent standard: e.g. for an architect wishing to take a town planning course.

3. Faculties of law and economics

a) Licence level in law

There is no accepted equivalent standard, but special arrangements exist.

Thus, a standard equivalent to the first or second year of the graduate course in law may be granted on the dean's recommendation for candidates holding qualifications included in an official list, the chief of which are:

- diplomas of the university institutes of technology;
- licence in humanities or science subjects;
- master's degree in science;
- HEC or IEP diplomas.

For all other types of diploma, some further training and tests have to be taken by all candidates.

In addition, candidates with specific qualifications may be automatically admitted to the second half of the fourth year of the course for the licence in law (divided into two semesters).

b) Licence level in economics

Similar arrangements are being planned in this case; however, an "accelerated system" already exists whereby certain candidates are exempted from the first-year studies, and take a fairly heavy one-year course combining first-and second-year studies and then go straight on to the third-year of the course.

Such arrangements may apply to:

- holders of the DUES, mathematics-physics or physics-chemistry sections;
- candidates eligible for the Polytechnique;
- students admitted to the schools of engineering, which take candidates after two years' study in the A, B, or C streams of the preparatory classes /Including those held in the National Institutes for Applied Science (INSA)7.
- humanities students holding the DUEL, sociology or history-geography section.

c) Equivalent standard to the licence, with a view to the doctorate

i) For the purposes of the doctorate in law, a standard equivalent to the licence may, in principle, be granted on a decision by the Minister, after considering the student's record. Such possibilities are very limited and in fact exist only in theory.

ii) For the purposes of the doctorate in political science or economics, direct equivalence may be assumed in individual cases; those holding diplomas of the IEP's or the Grandes Ecoles, agrégés in humanities subjects and candidates holding a university doctorate may sit for the entrance examination.

4. Faculties of medicine

Only one equivalence is allowed, i.e. between the DUES in chemistry-biology and the preparatory certificate in medical studies (CPEM).

For the special links between the courses in human biology at all levels and the faculties of medicine, reference should be made to Chapter II, the part devoted to the reform of medical courses; these links may be regarded more as structural connections than bridges.

5. University institutes of technology

Two cases may arise:

i) Pupils who have finally failed the first or second year examination of the first cycle university course may be advised to apply to the IUT's; they enter at first-year level.

ii) Students holding the DUEL or the DUES, and wishing to change course, may be admitted to an IUT on the strength of their past record; they will probably be allowed to take a one-year accelerated course.

6. Schools of engineering

Certain schools of engineering, especially the advanced national schools of engineering (ENSI's), allow some candidates to take a competitive entrance examination, provided they hold the DUES. For example, in 1969 these colleges offered about 15 per cent of the places in the competitive entrance examination to the most successful first cycle graduates in science.

Licentiates in science may also be admitted to the first-year course after passing oral tests, while masters of science may be admitted to the second-year course, on the strength of their past record. This is due to the special links which have always existed between the ENSI's and the universities, despite the growing independence of the former. As regards the other Grandes Ecoles, no special arrangements have yet been agreed; it may, however, be assumed that the Grandes Ecoles will, in future, recruit more students with a master's degree to take a two-year course, especially in the "applied" schools.

II. EXTENSION OF THE BREAKDOWN OF COMPARTMENTATION IN HIGHER STUDIES FOLLOWING THE 1968 ACT

At internal level, various provisions have reinforced the possibilities of bridges between various types and levels of higher education. Thus equivalences with the first or second year of the present law and humanities studies can be granted to students holding diplomas from other faculties or the Grandes Ecoles, or having followed Grandes Ecoles preparatory classes. In the particular case of admission to law and economics studies, supplementary courses may be required of students wishing to avail themselves of the equivalences. These arrangements also apply to diploma holders in IUT's training higher technicians in two years. A teacher in the faculty or institute where students will be enabled to register (as in the second year of the Political Studies Institute) will have the special task of guiding these students in their new studies.

As far as medicine is concerned (Order of 29th April, 1969), those candidates allowed to enrol for the second year of preliminary medicine, or second year of dental surgery, must hold one of the following qualifications:

- Certificate in joint physics, chemistry and biology;
- Veterinary diploma;
- Diploma in pharmacy;
- Pass certificates for the first two years of pharmacy;
- DUES with distinction in chemistry or biology.

Recently the procedure enabling equivalence to be established between French diplomas, or with foreign diplomas, within the general list of diplomas has been relaxed(1) (as part of educational independence) to the benefit of the deans of the faculties of science, humanities and law. In addition, the equivalences have been broadened. The diplomas or examinations for which deans will be able to grant equivalences from now on are as follows:

- in law: licence;
- in humanities: first and second year of first cycle, licence;
- in science: second year of first cycle (conditional on passing a supplementary examination).

Science faculty deans will thus be able to grant exemption from examinations in preparation for master's degrees, advanced studies diplomas (DEA) and engineering doctorate diplomas (for graduate engineers).

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1) Authorisation was formerly given by the Minister.

It therefore seems that it will be less difficult than before to go from one type of education to another, and it will be possible to study abroad without having to start examinations from the beginning on return; there again, the independence of the new universities should quickly lead to practical measures.

There is also greater flexibility in accepting diploma holders who have studied in other establishments.

As an experiment, the University Centre of Vincennes was authorised for the 1969-70 academic year to recruit non-baccalauréat holders on the basis of an oral test covering their former activities and future projects.

Since the beginning of the 1969 academic year, holders of a preliminary certificate in law(1) no longer need the baccalauréat to register in the faculty of law and economics, provided the average of their examination results over two years is at least 12 out of 20. An average between 10 and 12 means they must take a supplementary dissertation test.

It is becoming more and more common for those with the baccalauréat or the technician's certificate to be accepted for university on consideration of their record (possibly together with an examination). But the IUT's have given most places to these diploma holders. In 1968-69, 42 per cent of those enrolling had a technician's certificate or equivalent qualification. In addition, the number of students admitted through examination for the purpose of social betterment may be as much as 10 per cent of the classes.

Regarding relations between faculties and the Grandes Ecoles, apart from the National Colleges of Engineering mentioned above, some new contacts have been made with science faculties.

Examples are the engineering and mining colleges. The Ecole des mines in Paris and in Saint-Etienne have tried to broaden recruitment: as from autumn 1969 additional recruitment, based on diplomas held, will supplement the traditional recruitment sources. Holders of faculty master's degrees will be able to enter the second year, subject to a proficiency examination. Like Polytechnique graduates, they will do two years at the school. Also, holders of a diploma from the National arts et métiers schools, or the Douai and Alès Ecoles techniques nationales des mines (a university scientific studies diploma at end of first cycle), or a university diploma in technology can apply for admission to the first year, which will be treated as a probation period.

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1) The Capacité en droit consists of two years of study differing from the licence in content and accessible to those without a baccalauréat.

Part Two

CHANGES IN CURRICULA AND EDUCATIONAL CONTENT

Changes in the curricula of the various types of education available have lagged behind reforms in the structures. The most important decisions were taken for most of these after May 1968, except for completely new types of education such as the transition cycle, the practical terminal classes and the university institutes of technology.

Title 1

COMPULSORY EDUCATION

Various changes in the curricula and timetables have been made which affect primary education (rather late in the day) as well as secondary education.

Chapter I

PRIMARY EDUCATION

Although primary education as such has not been called into question by the reforms, the function of the organisation of first cycle secondary education has been considerably altered. It is only very recently that the content of primary education was changed, after a long period of evolution.

I. CHARACTERISTICS OF PRIMARY SCHOOL EDUCATION BEFORE 1968

A. Educational Aims

The primary school aimed to give the child a firm grasp of basic techniques: reading, writing, arithmetic and the metric system, and also to provide him with a rudimentary knowledge of certain more general cultural subjects: French language, history, geography, nature study, singing, drawing, handicrafts, ethics and physical education. According to a study by the International Bureau of Education (IBE), Geneva(1), the time allocated to these different subjects was broken down as follows:

Language:	34.5 per cent
Mathematics:	16.0 per cent
Natural sciences:	10.0 per cent
Ethics:	7.5 per cent
Practical work:	Nil
Arts:	8.0 per cent
Physical education:	8.5 per cent
Miscellaneous:	15.5 per cent.

B. Curricula

The compulsory nature of primary education implies uniformity of curricula and teaching methods. Curricula are therefore identical throughout the country, although some diversification is possible in the final year (5th year), particularly as regards science which, since it is mainly concerned with the environment, can take account of local peculiarities.

A number of bodies were concerned in drawing up the curricula permitting administrators, educators, parents and specialists all to have a hand in preparing the curricula. This resulted in specific and identical courses of study for all, while still making it possible to provide an all-round education. However, there were prescribed syllabuses for many subjects.

C. Nature of the Education Provided

Thus, the curriculum was fairly closely packed, as evidenced by the small amount of time allocated to art: one hour per week for music and one and a half

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1) Source: l'Organisation de l'instruction publique (the Organisation of Public Education), IBE No. 24, Geneva.

hours for drawing. Furthermore, unless the conditions were right - adequate premises, number of pupils, quality of teaching - the detailed syllabuses to be covered in so many subjects often led to an abstract and formal type of teaching far removed from what was expected under the educational reform.

II. CURRENT VALUE OF PRIMARY EDUCATION IN RELATION TO THE PUPIL'S EARLIER AND SUBSEQUENT SCHOOLING

From the description given above it would seem that primary education was sandwiched between a continuously developing pre-primary education and the new first cycle of secondary schooling. Owing to the extremely difficult conditions created by the population explosion and the teacher shortage from about 1952 to 1961. primary education deteriorated appreciably, and, since the content and methods of teaching had not yet been revised systematically, was no longer adjusted to needs and was experiencing very little success(1).

A. How Primary Education Works

There seem to be three sets of factors responsible, though in greatly varying degrees, for the poor functioning of primary education.

The first played an important part in the past, namely, overloaded classes. The absorption of the staff shortage and the stabilization of total primary enrolments have helped to diminish this trend in recent years. It has now been proved that performance is better when classes are smaller. The fact remains that this has been a predominant factor in the recent past.

The second reason is the delay(2) in having provided schooling for maladjusted children. Consequently a good number of pupils needing special education have been taught in ordinary schools; this upsets the balance of the class, adds to the teaching responsibilities and diminishes performance.

According to the estimates in the Fifth Plan, 476,550 pupils had need of special education. The number of places available at the end of the Fifth Plan has been put at 153,858 in state education and welfare establishments (amblyopics and medium deaf children). The overall shortage therefore for primary education, the transition cycle and practical terminal classes amounts to roughly 322,700, i.e. 6.8 per cent of the school population in these types of education.

Different bases of calculation were used in drawing up the Sixth Plan, since the share of special education (by comparison with the population aged 5 to 19) rose from 6.16 to 12 per cent. On this assumption, and for mentally deficient children alone, the shortage (covering all needs) amounts to 203,440 in primary education, i.e. roughly 4.5 per cent of the school population. Adding to that the category of border-line cases and various disorders(3), again for primary education, the shortage becomes 559,000 places, i.e. 12.3 per cent of the school population. It will, however, be seen below that the system itself is responsible for these disorders.

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1) Cf. Book I, Part Two, Chapter I.

2) See implementation of Third, Fourth and Fifth Plans, Book III, Part One, Chapter III.

3) These children are not mentally deficient but have educational psychological disorders necessitating their being provisionally placed in adaptation and adjustment classes.

Including all the categories of maladjusted children for compulsory education as a whole, the shortage comes to some 888,100 places, i.e. 14.5 per cent of the corresponding school population. Subtracting border-line cases and specific disorders from this large figure, the shortage then becomes 500,500 places i.e. 8 per cent of the corresponding population. However important it may be, this factor must not be overstressed because roughly 355,600 children are affected by some very slight handicap which is largely the fault of the system itself(1).

The third and most important factor is that the education system itself is largely responsible for behavioural disorders because of the use of teaching methods unsuited both to the children taking this form of education and to the new aims that it should be pursuing. The problem of how primary education works is justifiably regarded as very important and several types of solution can be envisaged in the immediate future to remedy this state of affairs.

1) First hypothesis

Given that the ordinary sector represents 89 per cent of the population of primary school age - the remaining 11 per cent being in special education - there could be three possible courses of action.

a) Introduction of extended education: by prolonging and diversifying the school system those so requiring could take six years instead of five to complete primary education and five years instead of four to complete the first cycle of secondary. The problem has not been resolved as to what proportion of the population would need extended education. At first glance, it might concern children with an intelligence quotient (IQ) of between 85 and 95 inclusive, i.e. roughly 20 per cent of the primary school age population.

b) Creation of "catching-up" classes ("mise à niveau"): coinciding with the first two stages of orientation (beginning of sixth form and end of third form). The only purpose of these classes is to catch up with the ordinary system through education tailored to the individual. They would be intended for 3 per cent of the population in a new system but as a transitional measure in the short-term would take more than that.

c) Changes in teaching in ordinary primary education: during the Sixth Plan. For this purpose, all teachers would systematically take refresher training in order to implement the new curricula effectively.

The needs of special education (11 per cent) would be met at two levels for day pupils and at three levels for boarders.

Such a solution has the advantage of fitting into the lines of the new ordinary system. But in the present state of options, the financial measures envisaged do not seem adequate to enable primary education to be effectively reformed. This being so, change will spread much more slowly and may even alter course. There is nothing to prevent the new curricula being taught in the traditional way, the failure of which has already been proven. This policy also has other drawbacks.

It is illogical to plan both extended education and a reform of the system unless every possible administrative precaution is taken to maintain the exceptional and transitional nature of these classes.

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1) Figures given in this paragraph are calculated on the basis of statistics from the Ministry of Education: Report on Options by the Inter-group Maladjusted-Handicapped children for the Sixth Plan, February 1970.

It seems useless to introduce catching-up classes; even if they serve only a small percentage of the population (which would not be the case in the five years to come), this really means organising repeater classes as a result of poor performance in a given school cycle where the pupil would simply have developed and systematised his handicaps and backwardness. All things being equal, it would be more sensible to introduce classes at the beginning of the cycle in the form of probationary adaptation classes (classes d'attente).

2) Second hypothesis

This solution implies a stagnation in the quality of primary education. The basis here is the Gausian breakdown of the primary school population's IQ, determined on the Binet-Simon scale. This distribution agrees fairly well with the results of enquiries already carried out preparatory to the Fifth Plan, for example, and with those already registered in the départemental files being set up(1). This IQ distribution covers only mental defectiveness and excludes handicaps unrelated to IQ. It is given in the table below.

Gausian IQ		Per cent of the primary school population
50	Education sector	0.15
50 - 65	All special education	1.35
65 - 75	Ministries	4.4
75 - 80	Adaptation section	4.6
80 - 85	Ministry of Education	6.9
85 - 90	Extended education section	7.6
90 -100	Of schooling, Ministry of Education	25.0
+100		50.0

Note: The breakdown for children with an IQ between 100 and 150 is the same as above.

The IQ here measures speed of mental grasp. During childhood, this IQ is statistically constant with the proviso that it may decline due to other socio-cultural or behavioural disorders. It often improves by 5 or 10 points as a result of successful occupational placement(2). The result is that any attempt to expand education for the purposes of adjustment and adaptation escapes, according to the advocates of this solution, any improvement in the ordinary school system.

In the present state of affairs, the requirements of primary education correspond to an IQ of between 100 and 110. Consequently, primary studies should be completed in the usual time by at least 50 per cent of the school population (Note: Table 45 gives lower results). On the basis of these data, three types of action are planned to eliminate repeater years in primary education.

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1) These files are being established as part of a systematic detection policy.

2) Since the tests were at that time different, results do not mean the same thing. The constancy or development of IQ is therefore difficult to interpret.

a) The primary cycle would be prolonged by a year for roughly 30 to 40 per cent of the school population, including foreigners, who are a priori - subject to their effective adjustment - put in the category of "border-line cases and behavioural disorders"(1). Bridges would be provided from one cycle to another.

b) Adjustment and adaptation classes annexed to ordinary establishments would be planned for roughly 10 per cent of the population (two adjustment classes for every 11 primary classes). These classes would constitute a transitional measure in the cycle (two and a half years) with a broader teaching basis than catching-up courses because they aim not only to make up the scholastic time-lag but also to prevent behavioural or emotional problems from becoming ingrained, etc. Consequently, these classes are intended for pupils in the ordinary and the extended cycle who need such education in order to return to their regular classes(2). In compulsory secondary education, the adjustment cycle would disappear except for children with behavioural difficulties (1 per cent of the age group).

c) Educational Psychology and Medical Centres would be considerably expanded. Each centre would have a doctor, a school psychologist, five educational psychology and psychomotor therapists, and a social worker.

This policy seems pessimistic because it makes adjustment available for roughly half the school-age population. Consequently, when such a large share of the school population needs re-education or adjustment, it seems reasonable to ask whether it is not ordinary education that ought really to be reformed.

By setting up two cycles and dividing the children practically half and half between them, the system seems very segregationist. Such a distribution should be decided very early (six to seven years of age). In these conditions the forecasting value of an intelligence test of the Binet-Simon type (which is the most suitable in the circumstances) is very slight, because the constancy of the IQ is a gamble and the earlier the test is performed, the greater a gamble it is. This is a substantial scientific obstacle. Such a process implies a full complement of highly qualified testers and school psychologists so that these tests are carried out in the best possible conditions ensuring what little significance they scientifically merit.

3) Third hypothesis (experiment in the XIIIth Arrondissement of Paris)

Another possibility consists of extending the experiment carried out in the XIIIth Arrondissement of Paris in close co-operation between the Alfred Binet Mental Health Centre (psychotherapy section), the adaptation and special education services, and the schools led by a primary school inspector. According to this experiment, and in contradiction of what has been said earlier, there is no correlation between mental level and scholastic backwardness. It seems, in fact, that the degrees of backwardness noted are the fault of the schools themselves which emphasize socio-cultural differences. On the basis of these observations it was decided to diversify the system.

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1) These are not mentally deficient children but those with some behavioural or expression difficulties. This is particularly true, at least in the beginning, of foreigners, who often have language problems.

2) Those with an intelligence quotient lower than 75 are regarded as mental defectives and educated as such.

Classes were reduced from 35 to 25 pupils each. Then, for example, out of a group of 160 pupils in preparatory classes (first year of primary education) after a two months' observation period, 50 were having difficulties (30 per cent). Of those, 20 followed ordinary preparatory classes with special coaching (12 per cent of the total) and 12 (7.5 per cent), after one year's adjustment(1), were able to take primary education. In these classes, therefore, only 35 per cent of the pupils are repeating the preparatory year.

Such an experiment calls for some comment. This type of organisation has the advantage of being very flexible which may no longer be the case if it is made generally available. The children have a suitable period of orientation enabling them to avoid "false moves".

Finally, catching up in the proper sense of the term is effective and rapid since 7.5 per cent of the pupils taught go through the education system with ease once their initial problems have been solved.

However, it presupposes a large scientific infrastructure. The Alfred Binet Centre has played a decisive part and it is difficult in the short term to envisage setting up another body of similar quality. Primary school teachers are undoubtedly very good teachers, which confirms that problems originate in the school system because it is still selective. It is hard to imagine such a solution being made available throughout the country in a short time and still managing to retain all its qualities.

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None of these three solutions is completely satisfactory. The maladjustment of the education system is at fault and not that of the children; this clearly does not mean that real problems - which exist - have to be ignored. It must however be noted that the catastrophic results of the 1960s are being reversed because the number of overloaded classes has declined. The new curricula may very well not influence the course of education if teachers and those responsible continue to function within a selective system. Everything operates as though most of the education system were based on an entrance examination to the Grandes Ecoles. Retracing the early stages, it is clear that all primary education is subordinate to long secondary education with Latin. The problem is not to succeed in teaching a small number of pupils Latin, but year by year to ensure that every pupil makes progress in all his subjects by comparison with his actual starting point. That presupposes three conditions:

- refresher training for teachers to help them change their outlook. Refresher training predominantly theoretical and based on educational psychology would, for a start, improve standards;
- education organised in every class by group level and subject. There is no difficulty in setting this up if primary school teachers become semi-specialised teachers;
- all repeater classes to be banned and teachers forced to take pupils at the ordinary chronological age. This would be the best safeguard.

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1) There are in Paris 21 adaptation classes for every 770 preparatory courses and 22 probationary classes (classes d'attente) in pre-school education.

Finally, there would be at the end of the course:

- a certain number of pupils in advance of the others who had acquired the content of primary education in four years instead of five, perhaps many more than at present believed(1), which would be all to the good;
- a great majority of children without problems;
- a certain number of children with difficulties who could then benefit from adaptation classes.

Such a reform naturally presupposes considerable financial effort. In the present state of affairs, it is not possible to judge whether the first measures of reform in primary education could achieve these objectives.

B. Shortcomings in the Field of Teaching

1) Lack of autonomy

The lack of autonomy in primary education is at the root of many of its current shortcomings. An order of 1st August, 1957, set up experimental schools and classes in public primary education with a view to studying the introduction of new teaching techniques. For some time now, these experimental schools have led a precarious and not undisputed existence (the Freinet school in Vence; the Vanves, Amiens, Montauban and Montgeron schools). The methods practised are essentially active, the timetable being divided equally between classwork and sport so as to spread the intellectual effort more evenly and adapt education better to the faster pace of living and working conditions (particularly in urban areas). The great majority of primary schools, however, still provide an organised, precise and logical education, often inadequate owing to its excessive rigidity (for example, the choice of reading texts) in direct contrast to the rich education the nursery school offers.

2) Inadequate knowledge of the basic elements of child psychology and of the relationship between growth and education

All intellectual work in the primary school should be based on observation, dexterity, exercises and comparisons. These are essential stages in the learning process. Intelligence operates initially through tentative experiments, since it can rely on neither memory nor reason at this level but depends on the will to succeed in an undertaking that excites the curiosity and answers a need. The education provided in primary schools, however, is too often passive and imposed. Most of the subject matter awakens no interest or has no immediate utility, and the pupil has neither the inclination nor the desire to assimilate knowledge or techniques totally alien to his needs, since they appear as unrelated facts calling for continual changes in his mental processes. These predigested subjects are expressed abstractly in speech and writing, with the pupils playing a purely passive role. The result is a rather poor type of education marked chiefly by overloaded timetables, too many lessons, too much homework, inflated curricula and a failure to recognise emotional needs. Hence, in order to sustain attention, it is necessary to rely on a system of marking, authority and classification rather than on the pupil's voluntary activity.

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1) It must not be forgotten that high IQ's are found amongst very backward pupils (three or four years behind). They are bored within an education system not designed for them.

That very little time is allocated to practical activities is shown by the comparative survey of other countries conducted by the IBE in 1958 (see Table 87).

However, the educational value of practical and manual activities can hardly be overstressed since they indicate the pupil's level of intellectual maturity. To avoid releasing compensatory mechanisms (evasiveness, aggression, tension, etc.) it is very important to avoid creating problems for those who are not in a position to resolve them, for the level of maturity influences the process of assimilating knowledge. School work should take the form of research before assimilation, since research fosters success which, in its turn, sustains the motivation. It can thus be seen that the interest motivating the action and the effort required for its achievement are complementary. However, if intelligence is not harnessed to activity the effort demanded kills all interest and makes it difficult to assimilate knowledge.

TABLE 87

Time allocated to the different activities in primary education

Subject	France	Average	Norm
Language	34.5	33.6	34
Mathematics	16.0	15.98	15
Natural sciences	10.0	10.69	9
Ethics	7.5	8.72	5
Practical activities	-	10.33	7
Arts	8.0	7.5	-
Physical education	8.5	6.36	7
Religion	-	5.24	-
Miscellaneous	15.5	2.47	-
	100.0	100.00	100.0

Source: l'Organisation de l'instruction publique (the Organisation of Public Education), IBE No. 24, Geneva.

III. TOWARDS THE REFORM OF PRIMARY EDUCATION

Given the magnitude of the problems and the fundamental importance of the early years of schooling throughout a person's lifetime, it was planned to reform systematically the curricula and content of education.

The way has been opened for a move in this direction by the very encouraging results of the many experimental classes set up. The experiments have been focused on three main points: reorganising the cycle, developing suitable methods for subject teaching and reorganising the timetable.

A. Experiments in Reorganising the Cycle

In 1967-68 an experiment of this type was planned in some 20 training classes or classes annexed to teacher training colleges. The experiment called for the suspension of the successive class system during the first three years (preparatory and primary classes). Teaching was to be centred on the basic techniques (French and mathematics), physical education and manual work, with a view to breaking down the barriers in education, adjusting the teaching to each pupil's pace as far as possible and making it less abstract. It is essential however to see that these pupils are not subjected to conventional cramming when they reach the intermediate classes (fourth and fifth years).

B. Experiments in Subject Teaching

Most of these experiments concern mathematics. Still in the school year 1967-68, modern mathematics was introduced experimentally in 50 pilot preparatory classes. This experiment aptly follows up the technique used in the nursery school. There, too, care will have to be taken to avoid any harmful alternation between modern and traditional methods of teaching. At the same time, in the Académie de Lille, 15 experimental classes are being taught English by a modern phonetic method based on ordinary conversation.

C. Experiments in Reorganising the Timetable

The basic aim of this type of experiment is to avoid overloading. Under present-day living conditions, 30 hours per week of classroom teaching is clearly too much and is hardly conducive to balanced development. The need for a lighter timetable is becoming increasingly evident and efforts have been made in several directions: reorganisation of the timetable and winter sports classes (classes de neige).

1) Reorganisation of the timetable

This reorganisation has taken the form of dividing the time equally between teaching and sports or, more recently, into three, under the system referred to as "tiers temps pédagogique" (see below). Although the first system has given good results, cramming has not always been avoided owing to the compulsory nature of the curricula.

Under the more recent system known as "tiers temps pédagogique", the 30-hour weekly timetable for 220 experimental classes in the Académie de Lille is made up as follows: 15 hours are spent on basic subjects - usually in the morning - and the remainder is divided between physical education (seven hours) and artistic or intellectual activities (seven hours) in the form of daily supervised work sessions. The teaching methods are similar to those used in nursery schools and in the transition cycle. In the subjects dealing with environmental studies, the aim is to develop the power of observation rather than increase the store of systematised knowledge.

2) Winter sports classes

Following the initiative taken by the Vanves school in 1953, these classes - unique in France - are now very widespread and some 40,000 children from the intermediate classes go away each year for one month(1). The physical benefits to the children are undeniable, but the schoolwork is so strictly organised that pupils often have no time to get to know the local environment, although this would clearly be of great educational value.

The variety of these experiments shows how much thought is being given to the matter.

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1) These classes are always organised on a local community basis.

It seemed advisable to try out the experiments on a limited basis first before extending them throughout the territory. Systematic exploitation of the experience gained will provide valuable information for the reorganisation of education which, it would appear, should be based on the following principles:

- development of individual experience. The best essays written by pupils on what they have seen or experienced should be used as a basis for exercises in grammar and writing and subsequently be published as a French language textbook.
- development of exchanges with the outside world in the form of organised external contributions facilitated by inter-school correspondence.
- greater individualisation of work, which would mean abandoning the age structure of classes: pupils would be assigned to levels according to subjects and could change levels during the school year.
- finally, development of a greater sense of responsibility among pupils, through the introduction of internal class rules. Educators will obviously have to be prepared to go along with this development.

D. The Commission for Teaching Reform (Commission de rénovation pédagogique)

A commission for teaching reform was set up on 28th February, 1968. Its aim was to define a school system which will ensure that education has priority over instruction, that the school keeps in contact with the outside world, and that all pupils' abilities are developed in such a way as to take account of certain present-day realities:

- the increasing pressure exerted on pupils by the outside world which makes them rebel against the traditional school system;
- the progress in communications media applicable to education, which can add to its effectiveness;
- the rapid advance of knowledge and techniques which rules out the acquisition of encyclopaedic knowledge;
- the interest of the teaching experiments carried out.

The Committee's job was to study the extension of the following measures throughout state establishments:

- use of audio-visual methods;
- application of active methods;
- half-time teaching;
- co-ordination of various types of education through team work among teachers;
- lightening of curricula and up-dating of education.

After the events of May-June 1968, a new Committee on Teaching Reform proposed changes along these lines covering more than primary education. For the purpose of making the first year of primary education more standardized, a circular of 10th December, 1968, stipulated that access to primary education would no longer be determined on the basis of age (six years old between 1st January and 31st December in any year) but on consideration of the child concerned and his aptitudes.

IV. NEW CURRICULA IN PRIMARY EDUCATION AND THE REFORM OF EDUCATIONAL CONTENT

Primary education is now preparatory for all. Personality-forming activities need to be developed during this stage. Written and oral expression, reading and reasoning must be encouraged.

The reform of primary education has been approached from two angles:

- reorganisation of the timetable;
- modification of educational content.

A. School Time

The timetable has been reduced from 30 to 27 hours a week and the Order of 7th August, 1969, organised three-part teaching which has three essential characteristics:

- the tempo of work is no longer weekly but daily which means that priority can be given to the person being taught and not to the subject The starting point is no longer the syllabus; it is now the teaching requirements, and the school tempo is organised around that of the child.
- this daily tempo of work is much more flexible and gives the teacher the initiative. Broadly speaking, the typical weekly timetable is divided as follows:

TABLE 88

New timetable for primary schools

Subject	hours per week
French	10
Arithmetic	5
Evocative subjects	6
Physical education and sports	6

The basic subjects, French and mathematics, are organised in the morning, evocative subjects (history, geography, natural sciences, art and expression activities) and physical education in the afternoon. Pupils are free on Thursday and Saturday afternoons and the school year consists of roughly 113 working days (1969-70).

The alternating cycle described above is not as strictly respected in the first two years of primary education, when these "afternoon" activities are divided among mornings and afternoons as in nursery schools. By reorganising basic subjects the formerly excessive fragmentation can be avoided but subjects should not be spread out in such a way as to demand continuous efforts of attention beyond the capacity of young minds. Similarly, physical education periods must not be too long since the children would become too tired.

This new organisation reveals the priorities: the acquisition of the basic tools (French and mathematics), the awakening of interest, and physical education. The rearrangement of the time spent on basic subjects will make for more integrated and thus more effective learning. The idea of evocative subjects is quite clear: the problem is to learn to use documentation without being a slave to it.

There is much more physical education than before. The primary school teacher is still responsible for this, but in schools with several classes there is a possibility of semi-specialisation and team-work for some teachers. Physical education and sports include:

- athletics and swimming
- open air activities (one afternoon a week)
- psychomotor education (relaxation)
- outdoor games.

Periods should be alternately long and short.

B. The Reform of Educational Content

This particularly involves the basic subjects for which the directives of the two Ministerial Committees are to be gradually applied. The Lichnerowicz Committee drew up a lighter mathematics syllabus. Without immediately introducing modern mathematics, it offers a good grounding, serving as a preparation for first-cycle secondary education in this subject.

Another Committee is working on the reform of French teaching.

Chapter II

FIRST CYCLE OF SECONDARY EDUCATION

At this level the reform of curricula and educational content has been organised in two stages.

- introduction of a diversified first cycle in 1963;
- new arrangements in 1968-69 for establishing a more effective common core syllabus in the first cycle.

I. THE FIRST CYCLE SYLLABUS AND EDUCATIONAL CONTENT IN 1966

A. Pilot Classes

These were set up in 1952 in the classical and modern lycées and offered the same syllabus as the long modern secondary classes but using original and highly individualised teaching methods which included a thorough study of the environment, a wide range of possible courses and practical and workshop exercises.

These classes have given very good results and are probably responsible for the new teaching methods introduced by the reform into the first cycle of secondary education.

1) Sections

The sections are fairly well differentiated, although in different ways. Thus, whatever the section, the curricula for the basic general subjects in the sixth and seventh years of schooling (sixth and fifth forms) are differentiated only at optional level; only the teaching approach varies. In the eighth and ninth years (fourth and third forms), the course becomes more varied in preparation for end-of-cycle guidance.

The timetables for the transition and terminal practical classes are quite another matter. These sections are arranged to meet the special needs arising directly from the extension of compulsory schooling (Act of 6th January, 1959) and from the abolition of the old style terminal classes. They form part of the first cycle and are intended for retarded but not maladjusted children. Each course covers two years:

a) The transition cycle (sixth and fifth forms - sixth and seventh years of schooling). The aim is to bring pupils up to the level of the second intermediate year of primary schooling, using the teaching methods described below (see Title 3, Chapter II) which allow for the pupil's age and interests. The total curriculum is fairly similar to that for the first term of sixth form, but its distribution is quite different and very flexible. As no actual timetable is available, the best we can do here is to give a brief account of a typical day's work as suggested by the Circular of 18th September, 1964.

The morning consists of a succession of periods which may last, according to the needs and circumstances, from a quarter of an hour to one hour.

The first period takes the form of a general discussion based on a short statement by one of the pupils on a subject of topical or local interest. This is followed by a period of individual work on the subject discussed (reading, free composition or documentary research). The next period may be devoted to improving reading ability: reading aloud a prepared text relating to the subject of enquiry. Shorter exercises follow explaining, supplementing and consolidating the essential notions of conjugation, grammar and spelling.

The second part of the morning, again divided into three periods, is devoted to assimilating the basic principles of mathematics. The first period is spent learning mathematics in a practical way by measuring length, angles, area, volume, etc. Situations motivating and justifying the concept of calculation can be introduced through the study of documents or surveys. In the second period, the practical work mentioned above serves as a basis to bring out general principles. The last period is devoted to understanding the operations and checking the calculations.

The afternoon periods are longer and are organised on flexible lines around two themes: topics of interest and experimental science. The topics of interest centre around a subject of enquiry, with small groups going into the different aspects of the subject in detail. In the experimental work sessions, the pupils learn how to approach the exact sciences through subjects borrowed from nature or technology (at least two and a half hours per week). Practical problems are tackled first in the sixth form on an individual basis, and the work is carried further in the fifth form through observation exercises based on natural science or experiments based on technical material.

Creative activities designed to develop the pupil's sensitivity have a large place in the programme. An approach is also made to the essentials of history, geography and civics, beginning with the local situation and study of the locality or topical events before going on to more abstract analysis. Lastly, two hours a week are devoted to physical education, pupils from all similar-level sections being grouped together according to age and size. "This is one of the factors making for integration between the transition classes and the other sections of the school"(1).

b) The terminal practical cycle

This two-year course follows the transition cycle and is intended for pupils who have at some time been in one or other of the classical or modern sections, for those who have been finally reoriented to a practical schooling after a trial period in one of these sections and, lastly, for those 14 to 15 year-olds still in the remaining old-style terminal classes who fail to qualify for admission to the fourth form adaptation class. Although the basic subjects still carry a good deal of weight in these classes, the bias is pre-vocational. Annex XII reproduces a typical timetable for these sections as set out in the Instructions of 5th April, 1966.

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1) 1963 Reform.

2) Curricula and new subjects

This more specifically pedagogical aspect of first-cycle reform will be dealt with under two headings(1).

- common basic subjects,
- optional subjects.

a) Common basic subjects

The curricula for these basic subjects progress from one class to the next and are identical in all classical and modern sections, though the number of hours devoted to them varies from one section to another. These subjects should help to bring out and develop the pupil's abilities during the guidance period.

i) Expression training subjects: French, drawing, music, mathematics and educative manual work.

These subjects should be grouped together; each in its own way aims to awaken the pupil's response to the expression of others and encourage him to express his own personality. Close co-operation between the teachers of these subjects is therefore essential.

- The French syllabus invariably includes the following studies: language (vocabulary and grammar); written or oral individual or collective exercises designed to facilitate correct expression; study of authors: study of texts, supervised reading.

Within this general framework special instructions have been issued concerning the first term of classical and modern studies and supervised work sessions. During the first term of the sixth form when the pupil is under observation, the teacher endeavours to determine the level and especially the aptitudes of pupils with a view to giving guidance at the end of the term. The best way of assessing ability seems to be through exercises on the structure of the sentence (Instructions of 19th October, 1960) which enable the child to advance from empirical use of the language to reasoned use, from a general understanding to the analytical understanding of a text, and to become aware of the relationship between substance and form. A routine approach to these exercises should be avoided in order to encourage thought. Lastly, analysis of the child's individuality and possibilities of expression as revealed by exercises in free composition can, for an identical level, provide a useful pointer to his quality of mind, sensitivity, accuracy of expression, conscientiousness, etc. The Circular of 30th May, 1962, on supervised preparatory work in French should lighten the burden of homework and help to guide the pupil's own efforts. In these sessions the children are divided into small groups of 15 or so for more individual instruction. The idea is to teach pupils how to tackle and deal with a problem methodically. The aim of French teaching should be to get pupils to express their thoughts easily and precisely through their own efforts with the help of worthwhile reading material. Frequent exercises on free composition help the child to co-ordinate and arrange his thoughts so as to express his own feelings. Individual teaching also helps to keep

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1) Detailed subject syllabuses for each class are given in the official publication of educational legislation and regulations. It is the style of the teaching rather than the content which is of interest here. Furthermore, the work of the Commission for Teaching Reform, cited earlier, also covers the first cycle of secondary education.

a check on progress. Text analysis is another exercise which helps the pupil to gain an understanding of the use of vocabulary, grammar and style. But the real value of these supervised sessions is the opportunity they afford to the pupil to discuss his difficulties with his teacher.

- Music and drawing are also very useful in determining aptitude (Instruction of 26th October, 1960) since, together with French, they are the main vehicles of expression. There is clearly a relationship between them. And here, as in French, the child's ability should be explored in two complementary ways: first by seeing how well he can grasp, understand and interpret the expression of others and, second, by seeing how well he can express himself.

Music lessons, therefore, will mainly be spent listening to music, though reading music can also help to show the child's ability to understand musical expression. It is extremely rare at this age that a child can express himself in music as it calls for a considerable power of abstraction. This is not so for drawing, where lessons should include both drawing from memory and imaginative drawing. Drawing from memory is particularly important since, in the final analysis, there can be no expression without memory. Such qualities as objectivity, exactness and accuracy are therefore demanded. But it is imaginative drawing which best reveals the child's ability to express himself in line, shape and colour. When this is spontaneous, it can throw significant light on the pupil's character and personality. The aim during this cycle, however, is to observe the whole personality, and drawing sometimes reveals talents which school subjects fail to reveal because of pupils' mental blockages; such talents nevertheless exist.

Thus each of these three subjects calls in its own different way on the pupil's power of expression; they should therefore be taught side by side keeping in mind the first cycle's function of guidance.

- Mathematics and educative manual work

Mathematics teaching includes both theory and practical work. The two should not be separated in the timetable as practical work provides a concrete approach to theory. Whatever aptitude pupils may have for this subject, practical work cannot fail to develop their power of reasoning, which is essential to many occupations. The teacher's constant aim throughout the four-year course should be to point up the natural relations between mathematical concepts and the concrete facts with which children are often familiar. Practical work should gradually accustom the pupils to using the more common mathematical tools (tables of squares, etc.) after having been shown how they work, and by making use of phenomena they have observed without being aware of their meaning or relationships, and should lead to more abstract reasoning. A methodical approach is essential here.

There is a very close link between practical mathematical work and educative manual work and this helps not only to identify those children who would do well to follow a technical and vocational course but also to find out more about their personality. There are two sides to educative manual work: a creative side and a practical research side. The creative side should appeal to the child's own interests and, by allowing him to make useful objects, help him to see the principles involved. This kind of work calls for increasing technical knowledge and skill. However, lack of technical knowledge may soon set a limit to such efforts, especially in the sixth and fifth forms. To overcome this difficulty children are given exercises based on simple assembly, dismantling and mechanical problems calling for practical intelligence and skill.

Thus, the complementary nature of these two subjects becomes apparent, the one leaning more towards abstract analysis and the other towards practical achievement, but both starting from a common base. They are, for that reason, excellent indicators of latent ability.

ii) Evocative subjects: modern languages, history, geography, civics and the sciences of observation.

These subjects have one thing in common: they all provide the possibility in different ways of testing pupils' interest in, and awareness of, the various aspects of the outside world.

- The study of modern languages has many facets: pronunciation, vocabulary, grammar, oral and written exercises and the study of foreign authors through graduated texts that allow for what has already been learned. The method used is active and based on conversation in the foreign language concerned. Increasing use is made of audio-visual methods. The teaching of modern languages offers a good opportunity for assessing a child's open-mindedness and realism. Here, as in French, supervised work sessions are particularly useful in helping the teacher to get to know pupils individually.

History, geography and civics should be taught in more or less close association with each other in order to get pupils to appreciate the common aspects of these three subjects or to see them as different aspects of a more general problem.

- The geography course includes, according to the year, the basic principles of general geography and the study of the continents and France. General geographical principles should be clearly explained and presented on the basis of specific observations in order to fix them in pupils' minds. The study of civilisations and ways of life (in Africa, for example) would be an important mind-broadening factor.

- Civics teaching has two facets: civic instruction proper and an introduction to community life. The aim of the first is to show pupils the administrative side of communal, departmental, regional and national life. As the pupils become more mature, the various administrative, economic, social and political features of a country's administration are progressively included. The introduction to community life has also two facets: the study of subjects of local and topical interest in relation to the geography syllabus, and the study of the social and economic evolution of certain social classes in relation to the history syllabus. These three subjects are therefore inter-linked. They should help to open pupils' minds to a wide range of topics and exercise their powers of observation.

The sciences of observation (elementary zoology, botany, geology and anthropology) are taught in practical sessions, classroom lessons being devoted to the analysis of the observations made during practical work. All these studies have the same aim - to awaken the child's curiosity and channel it as early as possible towards conscious reflection.

Physical education should not be regarded as accessory since the development of a personality forms a whole. The taste for physical effort presupposes keenness, attentiveness, dexterity and suppleness, which are not qualities belonging exclusively to physical education. The curriculum includes exercise in the gymnasium and open-air games in the afternoons. Gymnasium exercises will (together with rythmic dancing for girls) alternate with athletics and collective sports and games. However, it has not yet been decided what direction physical education should finally take, nor how it should be fitted into the general reform now under way. A project is at present under study. It seems fairly certain however that an effort will be made to relate physical education more closely to sports.

The common first-cycle curriculum also includes instruction in the highway code. The course is both theoretical and practical. The theoretical side consists of half an hour of classwork per month taken from physics time, while the practical side lasts from an hour to an hour and a half per month and is taken out of physical education time. The classwork covers the essential principles of road safety for pedestrians and cyclists. The practical work covers the working, checking and maintenance of the essential mechanisms and safety devices of a motorised bicycle, in association with the physics course. It also includes the basic principles of accident prevention and first aid, which are taught in association with the natural science course. As for other subjects, the course progresses by stages in line with the corresponding fundamental science courses.

Thus, the common core of the various first-cycle sections is made up of physical education, evocative subjects, abstract subjects and subjects of expression. Recent Ministry instructions have considerably changed the spirit in which these subjects are taught. The emphasis is now on detecting ability rather than on selection for a particular type of education.

b) Optional subjects

These come fairly soon after the first stage of guidance, the aim being to develop the abilities discerned. Options are available for all sections. This is one of the innovations of the reform. The idea is to break down the hierarchy sections, so that they should no longer be regarded as inferior to the classical section. One option, for example, is the substitution of technology for Latin in the modern section, the aim being to establish a better balance between subjects so as to allow greater scope for the abilities which serve as guidance criteria. There are two categories of subjects: traditional subjects and new subjects introduced by the reform in line with the new function assigned to the first cycle of secondary education.

i) The traditional subjects are literary or scientific and include classical and modern languages, physics and natural science, and domestic economy.

- Classical languages: Latin begins, for the classical stream, in the second term of the sixth form and Greek, when taught, in the fourth form. The Circular of 27th August, 1960, lays down rules for the teaching of Latin which are sufficiently general to apply to the study of Greek. First, the etymological relationship between these two languages and French is demonstrated, more particularly in the case of Latin. Translation into French is the main exercise and involves rearranging the ideas expressed into the idiom of the pupil's mother tongue. Emphasis is laid on translating the ideas rather than the individual words. Translation from French is used mainly to check what has been learned. Syntax is based on examples drawn from Latin and Greek. To make the course more interesting and more alive, instruction in the language is accompanied by an introduction to Greek or Latin civilisation. The use of active methods can also help to step up pupil participation and make the teaching more efficient.

- Modern languages. Study of the second modern language begins, like Greek, in the fourth form. English, German, Spanish, Russian, Italian, Hebrew and Arabic are the main languages taught. The range is rather wider for the second language (Chinese, Portuguese, etc.). If the first language has been properly taught during the previous two years, the second should be easier to pick up. Accuracy and ability to express oneself in speech or writing are considered more important than the acquisition of a large number of facts and rules. Texts for study are chosen in the light of the pupils' greater maturity.

- No circular has been issued on the teaching of physics and natural science. Instruction is based on practical work leading up to the basic scientific laws. Emphasis is laid on the inter-relationship between subjects.

- Domestic economy is taught to girls in the fourth and third forms of the modern and practical sections. The home, clothing and food are the main subjects dealt with.

ii) The new subjects: experimental science and technology

- Experimental science is taught in the sixth and fifth forms of the modern stream and in the transition classes. This new subject compares favourably with the subjects of expression as a revealer of talent. The point of departure is subjective observation based on pupils' own experience, followed by objective observation and measurement designed to initiate pupils in the use of various scientific tools such as numerical tables, drawings, etc.

It provides a training in systematic observation and the experimental approach, and encourages the child to think about what he has observed and how to express it. There are two types of practical experimental work:

- One relating to man and his environment based on the observation of geographical phenomena and natural science. The work is supervised by the appropriate teacher.
- The other consists of a series of physical and mathematical exercises involving the application of mathematics to elementary physical phenomena (the bicycle, the clock, etc.). It always begins with the subjective observation of the phenomenon, which leads to the need for measurement using general mathematical principles.

The study of phenomena must always be approached in a concrete way through direct observation allowing for the nature of the environment. Observation must always be based on direct experience. The phenomenon is analysed as a whole using the methods of deduction and synthesis. With the help of inter-school correspondence, observations made in one area can be compared with those made in other areas and a general law be deduced. The pupils are allowed to construct their own hypotheses, however tentative, but are always required to check them very carefully. Thus, they are made to feel the need for mathematical tools in order to go beyond the experimental stage. In these practical experimental sessions the pupils work in groups, which is an excellent means of revealing ability and observing behaviour. This subject is therefore an introduction to the experimental approach and should not be confused with technology.

- The course in technology is taught in the fourth and third forms of the long modern section. This is a new subject in secondary education and, in spite of appearances, it is nearer to physics than to experimental practical work or educative manual work. It is a scientific subject leading to general laws and not merely to reflection on observed facts. The Ministerial Instructions of 1st June, 1966, define the characteristics of this subject and what is required of pupils :

Technology is the logic of technical functions. Like any science, it has its own language, in this case industrial drawing, and the pupil must know its rules (standardization, etc.). He must be able to read a drawing correctly as it represents the practical expression of technical thinking.

Industrial drawing is therefore the basis of technology. It has to show all the functions of the object, indicate the improvements to be made so as to enable manufacture to reproduce exactly the requirements expressed in the drawing. There is therefore a constant relation between the object, its representation and its function. This is a good discipline for developing certain aptitudes: power of observation, ability to grasp the logic of technical functions, ability to distinguish the theoretical model from the real object and so on. As a training discipline, it has the backing of material devices made by man. Although the mental process it involves is fairly similar to that required for physics, it is more concrete and calls for different attitudes corresponding to those of the pupils in the long modern sections of the first cycle.

II. COMMON CORE EDUCATION AND CURRICULA FROM 1968 ONWARDS

From this date onwards there has been slow but steady progress towards the introduction of a common core in the first cycle of secondary education where, until now, it has existed more in theory than in practice (see Annex XII for timetable).

A. Sixth and Fifth Forms (sixth and seventh years of study)

Decompartmentation of the first cycle was first of all introduced in the sixth form (first year) at the beginning of the 1968 school year. Latin is cut out and only two 6ème classes are retained instead of four: the traditional 6ème's which divide into two pedagogically different sections (one CEG-type 6ème and one lycée-type 6ème), and the transition 6ème which has been modified to facilitate transfer from these classes to other streams. This common core is organised around French, mathematics and a first modern language(1). Greater importance than previously is accorded to evocative subjects (7½ hours) and to supervised work (10 hours). For this supervised work the classes, containing no more than 24 pupils, will be divided into three levels: good, average and below average. The composition of these groups, of course, alters with the subject. The education given is unified rather than single.

Official circulars have laid down directives on teaching techniques. In French, special attention is to be given to oral expression. This reflects the importance of motivation and dialogue in supervised work with its infinitely varied teaching possibilities. As regards the modern language, the recommendation is that priority should be given to oral expression and that audio-visual aids should be widely used.

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1) English, German, Italian, Spanish and Russian.

Independent teaching of Latin is also disappearing in the fifth form and being postponed to the fourth form. But in the fifth form, preliminary Latin will be taught to all pupils as part of the study of French, thus awakening their interest in Latin as a language and in Roman civilisation. Thus it is hoped that in the fourth form pupils, and not parents, will make their choice in the full light of the facts. The Circular of 3rd September, 1969, leaves teachers wide discretion in planning the introduction to Latin.

The new balance of timetables in the sixth and fifth forms has restored the importance of mathematics by increasing the number of hours from three to four. The new modern mathematics curriculum was introduced at the beginning of the 1969 school year and will be gradually extended throughout the first cycle. From now on, only the teachers' training differs in the first two years of the first cycle. Experimental teaching of modern languages has been introduced in the sixth and fifth transitional forms (three hours).

B. Fourth and Third Forms (eighth and ninth year of study)

Considerable innovation concerning the organisation of choices and the introduction of technology into the compulsory common core marked the beginning of the 1970 school year.

Technology

Since 1963, this has been an optional subject, thus giving an opportunity in the first stage to try out methods and to provide refresher training for physics teachers. This decision will, however, be implemented gradually and might not apply to more than 50 per cent at the beginning of the 1970 school year.

Options

There are four options in the fourth form; pupils must take one of the subjects and may also take an optional second subject:

- Latin
- Greek
- second modern language
- intensive training in the first language.

At present the first three particularly concern the lycée-type fourth form. The possible combinations are as follows:

- intensive modern language (five hours instead of three)
- two modern languages
- one modern language, Latin and Greek
- two modern languages with Latin or Greek.

Hence the new typical organisation for fourth forms will be as follows(1): the common core consisting of 14 hours' basic teaching (French, mathematics, first modern

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1) The teaching of technology will be introduced as human and material resources permit, and the mathematics timetable for 1970-71 will be increased to four hours a week, instead of three, only in establishments which can provide the extra teaching without recruiting additional staff.

language, technology) 7 hours evocative subjects, 5 hours physical education and sport, and between 2 and 4 hours for options.

Intensive courses in the first modern language are intended to give a deeper knowledge and greater mastery of the language. This choice may therefore interest those who appreciated their first modern language and wish to study it in greater depth as well as those who do not wish to disperse their energies. An effort will naturally be made to speed up the progressive replacement of CEG's by CES's offering the possibility of a second modern language or "classical" choices.

Fourth form pupils who do not take up a second modern language will be able to do so in the first year of the second cycle (second form) in a special accelerated stream with a timetable enabling pupils to complete the baccalauréat in three years. The third form in 1971 will inevitably be shaped by the fourth form.

C. Changes in the Content of Various Subjects

Civics

One hour is assigned to this subject in the fifth and sixth forms. The teaching is designed to bring the school into touch with real life: the commune, local history in the sixth form; study of the *département* and the *région* in the fifth form.

New history and geography curricula from the sixth to the third forms

They will be introduced progressively from 1970 onwards. The new curricula will give a very broad view of the subject while leaving the teachers much greater latitude.

D. Reorganisation of School Time

The principle of half or one-third time teaching, alternating with other activities, has been adopted as from autumn 1969. The general framework is as follows:

- intellectual disciplines, a.m.;
- 3 hours per week set aside for supervised studies;
- tea time with complete rest each day;
- 12 hours physical and sports education per week.

The detailed organisation is to be left to the discretion of the head of the establishment, taking local conditions into account. But effective generalisation of the half-time teaching and sport arrangement implies considerable resources in equipment and specialised staff.

Title 2

NON-COMPULSORY EDUCATION

This section includes all the innovations concerning the curricula and content of teaching introduced in the long and short second cycle secondary education and in higher education.

Chapter I

SECOND CYCLE OF SECONDARY EDUCATION

I. Long second cycle

In terms of structure, it has been indicated above that an attempt has been made over the last three years to develop aptitudes in long secondary education within five types of cultures. The fairly wide diversification of this general education was intended to pave the way for higher education. Time-tables and curricula had therefore been phased accordingly in 1966.

But at the beginning of the 1969 school year, radical changes were made to make the second cycle more flexible by expanding the basic subjects in the common core.

A. Timetables and Curricula in the Second Cycle under the 1966 Reform

1) The second form

Although there are five sections in the first form, there are only three in the second form (humanities, science and industrial technology).

The curriculum includes:

- Compulsory subjects common to all three sections: French, history, geography, civics, first modern language, mathematics, physics and physical education. The number of hours per subject varies according to the section; only the modern language timetable (three hours) is common to all three.

- Non-compulsory subjects: some are traditional such as drawing, music and manual work. Typing is a new subject reserved for pupils who have opted for economics.

- Optional subjects. One of the innovations of the reform is the fairly wide range of options offered to pupils at this level. There is a gap in the system, however, since no options are available in Section E. This new scheme has the advantage of offering pupils within the framework of a common general education a variety of choices in keeping with their tastes and abilities, thus enabling them to choose the most suitable course at first form level. (See Diagram VIII).

The second form humanities section has eight options, four with Latin: Latin-Greek, Latin-second language, Latin-introduction to economics Latin-plastic arts and architecture(1); and four with a second modern language: second language-introduction to economics, an intensive course in a second modern language for pupils from the CEG who have studied only one modern language, second language-classical civilisation based on the study of translated texts, second and third languages (see Diagram VIII). One of the advantages of this three-tier system is that it enables pupils from the lower secondary modern streams to take an arts course, whereas under the old system they had no choice but to take a science or technical course.

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(1) This option, available in second form, first form and terminal only for the humanities section, is designed to afford a general artistic training.

There is a similar three-tier system for the science section. Pupils must first choose between Latin and the second modern language. This is compulsory. After that the options are free. There are two with Latin (Greek or second modern language) and one with a second modern language including an intensive course for beginners (see Diagram).

In the A and C sections, the timetables and curricula are fairly similar in order to permit reorientation at first form level.

Section E (industrial technology) has its own disciplines such as industrial drawing, technology and manufacture, and practical exercises in the workshop, which burden the timetable as compared with sections A and C. The second form of the technical stream is common to pupils who wish to take the technical baccalauréat and those who wish to take a technician's baccalauréat (a revised version of the old technician's certificate). Thus, the choice between a course in technical theory and a more practical technical course is postponed until first form level.

It was not possible with the present curricula and timetables to make the first form technical course an option for the second form C stream as the gap between theoretical science teaching and practical workshop instruction is too great(1).

2) The first form

The first form curriculum includes a number of common basic subjects (French, history, geography, civics, first modern language, mathematics, physics and physical education). The time allotted to each subject varies with the section, except for the first modern language which is common to all (three hours a week).

There are also a number of non-compulsory subjects (drawing, music, educative manual work) open to Sections A, B, C and D. In addition there are the options:

- in first form A, there are two series of options: three with Latin (Greek, second modern language and arts) and three with the second modern language (intensive second language course, translated classical texts, third modern language).

- at first form level Section B offers two options with the first modern language (Latin or a second modern language). In this section, mathematics takes the form of an introduction to statistical mathematics.

- Section C offers a wider range of options:

  two options with the first modern language (Latin or a second modern language);

  and if Latin is taken, a choice of two non-compulsory subjects (Greek or a second modern language).

- Section D offers two options with the first modern language (Latin or a second modern language).

- Section E offers no non-compulsory subjects (not even drawing) and no options. This emphasizes the isolation of the long technical course leading to the baccalauréat and shows that the timetable has not been sufficiently well thought out.

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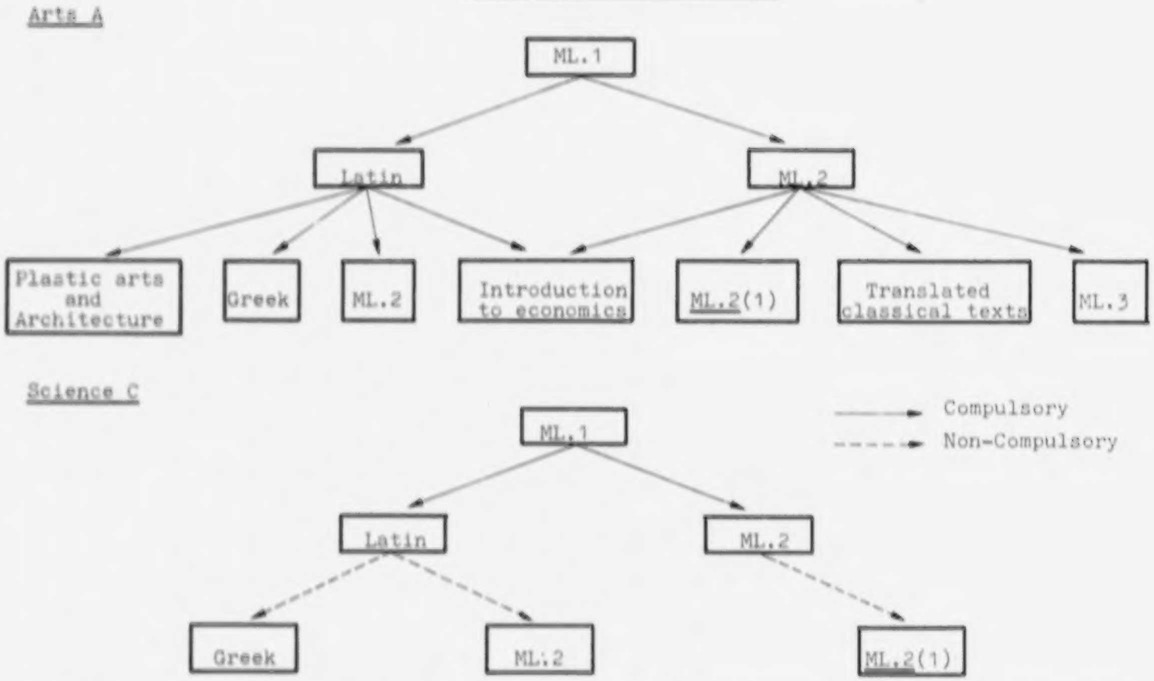
1) Students in second form C stream cannot opt for a first form technical stream.

DIAGRAM VIII

Arts and science options at second-form level
(long second cycle in 1966)


Arts A
ML.1
Latin
ML.2
Plastic arts and Architecture
Greek
ML.2
Introduction to economics
ML.2(1)
Translated classical texts
ML.3
Science C
ML.1
Latin
ML.2
Greek
ML.2
ML.2(1)
Compulsory
Non-Compulsory

Source: "Le mouvement éducatif en France-1965" (The Educational Movement in France-1965), Ministry of Education, 1966.

N.B. ML.1 = 1st modern language, etc.

(1) ML.2 intensive course for beginners.

3) The terminal classes

Specialisation becomes more marked in the terminal classes so as to bring it into line with the different courses of higher education. These terminal classes have been functioning since the beginning of the 1967-68 academic year.

- Terminal A: philosophy, humanities. Philosophy and French are the main subjects. There are many options: four with Latin (Greek, second modern language, mathematics or arts) and two with the second language (third modern language or mathematics).

There are also a number of non-compulsory options: mathematics with the option of Latin and Greek; Greek with the option of Latin and mathematics; and, finally, arts.

- Terminal B: introduction to economics.

- Terminal C replaces the old elementary mathematics. However a non-compulsory subject may be chosen: Greek, Latin or a second modern language.

- Terminal D is an optionless variant of terminal C, but with more advanced mathematics.

- Terminal E: a considerable effort has been made to reduce the hours from 40 to 30. The old mathematics and technical baccalauréat was one of the most difficult and the most overloaded, though owing to the lack of appeal of technical education the pupils taking this course were generally less gifted in mathematics than those taking elementary mathematics. The first step was to redress the balance between the E baccalauréat and the other baccalauréats, which assumes of course that guidance has improved since a number of pupils from the first cycle modern streams can now take economics and social science (B). However, technical education is still not fully integrated with classical and modern education since it offers neither options nor non-compulsory subjects.

4) Curriculum reform

The reorganisation of second cycle sections and timetables described above made it necessary to reform the curricula. This was done in three ways:

- by lightening the curricula in order to achieve a better balance of subjects within each section and between sections;
- by varying the syllabus for certain subjects in line with the particular bias of each section;
- by preparing new curricula for the new subjects.

a) Lightening the curricula

This measure was decided when Part 1 of the baccalauréat was abolished. As this meant that the terminal class final examination would include at least one more subject, French, the mathematics syllabus was lightened (part of the old elementary mathematics syllabus being taken in first form C, thus relieving the syllabus in terminal C). The same applies to the technical stream. The effect is to lighten the curriculum by some 25 to 30 per cent. The move towards a lighter mathematics syllabus has gradually been extended to all terminal classes and combines with a similar move in physics.

Other, more occasional, measures of this kind have been taken shortly before the baccalauréat examinations during the last few years, the subjects affected being history, geography and natural science. These various measures, which were decided upon at fairly short notice, are of little significance and do not really affect the content of the curricula. New subjects have been introduced without substantially affecting the established interests of the old and it may well be wondered whether measures of this kind are really effective in counteracting secondary education's notoriously overloaded curricula.

b) Varying the syllabus for certain common subjects

This is a more significant reform: once the five main lines of schooling leading to the five baccalauréats had been redefined, the curricula of the common subjects had to be readjusted. The mathematics syllabus, for example, has been adopted to the needs of the different sections: in the B stream at first form level the bias is towards statistical mathematics, while in the D stream it is more towards the mathematics used in applied science.

At the same time, changes were made in the curricula for the new terminal sections: priority is now given in terminal B to philosophy, psychology and sociology. The arts subjects in terminal D are the same as for terminal C.

c) Innovation

Despite the pressing need, it took some time to put these reforms into effect. The second cycle mathematics curricula were revised only in September, 1968. Instructions concerning the economics-sociology syllabus were issued in the Circular of 12th October, 1967. Lastly, the Circular of 14th October, 1968, lays down guidelines for the organisation and curricula of the second cycle sections offering an "arts" option. In practice, however, this option is available only in section A (arts) and takes the place of Greek or the second or third modern language, thus greatly limiting the range of this innovation. The arts option has two sub-divisions: music and plastic arts and architecture. The first provides an introduction to the theory and history of music and the second, according to the Circular, leads to familiarity and understanding of works of art through visual analysis, with particular emphasis on technique and methods.

B. New Arrangements Introduced in 1969

At the beginning of the 1969 school year, the rather sharp distinction between humanists and scientists was removed and a compulsory common core, including mathematics for everyone, was introduced.

1) The second form (for timetables, see Annex XIII)

The second form is designed to constitute a selection stage. For this purpose in the early phases there is a tendency to equalise timetables between the various sections for mathematics, until the application of new curricula in the first cycle enables mathematics to be taught in the second form. This equality of the timetables but not of the curricula (each section retains its specific literary, scientific or technological bent) should enable some humanists to enter certain science first forms (section D, in particular).

The humanities second form has three hours' mathematics a week, which remains unchanged, but pupils can take one and a half hours' supplementary mathematics, which is strongly recommended for those wishing to enter the economics section.

The technological and science sections have the same timetable of five hours a week. So as to reduce the memory-learning aspects of this education, one of the choices has been made an optional subject (second modern language or Latin). This should make this section more easily accessible to a greater number of pupils from CEG's who have not had the possibility of studying a second language in the first cycle.

Since French is no longer compulsory in the terminal classes and a French test has been introduced at the end of first form, another hour has been added to the timetable for this subject in the second form in all sections.

Again in all sections, part of physical science teaching takes the form of supervised practical work.

One of the humanities sections, consisting of two modern languages and the study of classical texts in translation, has been dropped. The time thus released provides two hours' a week extra coaching, which can cover French or a modern language, or be shared between the two.

2) The first form

The following changes have been made in the hope of closing the gap between the humanities and science sections. The timetable in science section C has been reduced from seven to six hours a week and that of economics section B from four and a half to four hours. Humanities section A benefits from two hours' optional mathematics a week and science section D from one hour.

The French timetable is intensive, as in the second form. The arts choices are wider.

In order to lighten the studies involving most work, Latin or a second modern language are optional in science sections C and D. These sections do not include a compulsory test in Latin or a second modern language for the baccalauréat. From now on, pupils in these sections will be able to concentrate their efforts.

3) Terminal classes

French is no longer a compulsory subject in terminal classes, but all sections have optional courses for those wishing to improve their examination results or to continue studying a subject from personal interest.

4) Trends

For some time the second cycle was not included in the reform movement, but it now seems to have become an integral part of it.

There are three tendencies:

- the need to reform French teaching;
- the reorganisation of the second cycle leading to the baccalauréat;
- the promotion of science and technology in schools.

a) The teaching of French

The first test of French in June, 1969, made the poor results more obvious. This was a very well known fact which, until then, had not been seen in absolute terms.

The results meant that the teaching of French could be critically examined.

In March 1970, the Minister set up a Committee on the Reform of French Teaching, similar to that set up earlier for mathematics. Its purpose is to propose curricula and teaching methods for French within compulsory education for both long and short second cycle education.

For compulsory schooling, the problem is to define teaching methods conducive to a mastery of the spoken and written contemporary language, methods of linguistic acquisition and suitable means of stimulating the children's intelligence, sensitivity and judgment through education in the humanities.

For non-compulsory schooling, the means of in-depth learning have to be defined for every type of education: written and spoken communication techniques, methods suitable for developing aptitudes for personal expression and creativity, and those likely to broaden literary culture.

For this purpose, throughout compulsory education, teaching priority for the study of the language must be given to practical problems: expression and communication requirements. The "rules" of a language can only be based on a practical starting point. The theoretical aspect of grammar will not be attempted before the second cycle; before considering a language objectively, a child must know how to use it.

Regarding literary culture and the texts studied, it would be advisable throughout compulsory education to choose complete texts that are fairly close to the spoken language and are likely, especially in the early years (until the end of the seventh year of study, the fifth form), to encourage escapism and fantasy. Later texts should deal with current affairs or be of the documentary type. Thus, literary analysis as such will not be undertaken before the second cycle. As for literary history, this will be left for higher education.

Such a concept of education implies the use of new, varied exercises to replace the traditional essays.

Clearly, for such a change in the teaching of the mother tongue, teachers will have to undertake systematic refresher and continuing training.

Reorganisation of the long second cycle

This raises the question of the purpose of this stage in the education system, which has not been clearly defined up to now.

The aim of recent decisions is gradually to bridge the gap between an exclusively humanities and a predominantly science education and therefore to move towards a common core. The long second cycle will for the most part remain cultural, provided that it can divorce itself from the former model. It must therefore be flexible, centred on a common core curriculum with a range of possible choices and optional subjects, while avoiding the extreme diversification and dispersal resulting from the 1966 reform.

The reform of the long second cycle has only just begun and will continue for some years to come. With this in view, new measures were planned for the beginning of the 1970 school year: two extra hours of mathematics for pupils in section A who were not taking either a classical language or a second modern language or an introduction to social economics; these two hours would be either optional (Latin, Greek or second modern language) or recommended (social and economics choice).

It is also planned to reduce the difference in the number of hours of mathematics given in the humanities and in the science sections.

C. The Promotion of Science and Technology in Schools

The shortage of science students

Enrolments in science faculties amounted to 21 per cent of the total enrolments in 1968-69 compared with 28 per cent five years previously. Between 1964-65 and 1968-69 total enrolments in science faculties increased by 21 per cent, due solely to increases in the second and third cycles (first degree and post-graduate levels).

The number of first cycle students, on the contrary, has fallen slightly. Parallel with this trend and for the same period, enrolments in humanities increased by 60 per cent at all levels; in law and economics, they increased by 71 per cent for the law "licence" degree (and dropped from 25 per cent to 17 per cent for the "capacité en droit"). The number of students in faculties of medicine has continued to grow, especially since 1967. The recently inaugurated university institutes of technology (1966) were training only 17,000 students in 1969-70 (165,000 students envisaged for 1972). In other words, the most students are to be found where outlets are the least likely. Not only are there not enough science students, but trends in numbers are out of line with those in other fields of higher education.

This unsatisfactory distribution of students by discipline is not confined to higher education but can also be observed in secondary education.

This is why, during the reforms, the responsible authorities tried various measures to promote the teaching of science and technology.

That it is one of the reformer's constant preoccupations is quite clear from what has been said above regarding primary education, first cycle secondary (one hour has been added to the mathematics timetable in the first year and will also be added to the second year timetable) and long second cycle secondary. There is concern with regard to timetables as well as curricula content and balance with other subjects.

The effort extends to higher education where retraining in mathematics is now available in science faculties.

The work of the reform committee for mathematics teaching was the subject of a Ministerial Order of 29th July, 1968.

Under the chairmanship of M. Lichnerowicz, the Committee introduced a reform extending from primary to higher education. Apart from drawing up new curricula, the Committee also studied problems raised by the setting up of mathematics teaching research institutes (IREM) in the universities.

The IREM's have the following objectives:

- to take part in the initial training of teachers;
- to provide continuous training for these teachers;
- to experiment with teaching methods;
- to compile and distribute documentation.

The first IREM's went into operation in January, 1969.

Regarding the teaching of technology, a great effort has been made at all levels, including higher education:

- increased teaching of technology in first cycle secondary;

- lightening of the formerly very cumbersome long technical education;
- introduction of new training streams more adapted to the pattern of employment and extending to higher education through university institutes of technology.

This effort, if prolonged and sustained, should gradually lead to real parity between general and technical education, to the benefit of the latter. It should become more attractive and thus avoid burdening the reception facilities in the humanities to breaking point.

These classes, introduced in September 1968, give another chance to young people leaving school without vocational training and without the educational level required for admission to adult vocational training centres.

These sections exist in a number of centres and accommodated 4,000 young people in 1968-69. The trainees have four months continuous guidance with an instructor, two group leaders, one psychologist, and physical education and sports instructors. They are organised into groups of 16, and have a 42-hour week:

- physical education and sports	6 hours
- general education and pre-vocational training	36 hours
- team sports	half a day
- three cultural evenings.	

The aim is to help students discover areas of interest, and thus direct themselves towards one-year vocational training or an adult vocational training section.

To facilitate entry into working life for those holding new diplomas, a new type of supplementary training will be introduced: it will be called the period of adaptation to work ("période d'adaptation à l'emploi"). This training will be given as part of an agreement between industry and the Ministry of Education. The length of training will vary according to the special subject chosen. It will be the first time that pupils trained in technical education will have been followed through job placement.

II. SHORT SECOND CYCLE

The principles set out above entailed changes in the content of courses and timetables.

With the extension of compulsory schooling and the postponement of vocational training to the end of the third form, the timetables had to be changed. As pupils start their vocational training with a higher level of general education, the time allowed to general subjects can be reduced in the industry sections preparing for the BEP and given a different weighting in the service sections. The new timetables prepared by the Ministry of Education are shown in Annex XIV.

Comparing the new hours with the old, it will be seen that (apart from physical education and sports) the general subjects, which accounted for 37.1 per cent of the time in the industry sections, now take up no more than 23.7 per cent. On the commercial side, the proportion falls from 66 per cent to 40 per cent.

In addition, the content of the course will have to be changed though in what way is not yet known. Judging by the texts already available, it seems likely to be based on an analysis of the various job functions. Once the content has been decided, instruction will include both theory and practice and a combination of the two.

This latter point is a novel feature of the reform. Up to now, vocational training has consisted of a juxtaposition of general education and instruction in technical practice and theory without any attempt being made to help the pupils to see the relation between them, although, in view of the difficulty of the task, they are unable to do this for themselves.

It must be remembered that those holding the primary school certificate who cannot be admitted to the practical terminal fourth form in the first cycle, can take pre-vocational training.

* * *

Lastly, the reforms being made in schoolwork assessment methods are gradually being applied to all primary and secondary schools:

- test exercises replace end-of-term examinations;
- the grading concept disappears;
- a simplified overall assessment scale is to replace the 0-20 markings. This general system has five levels.

Chapter II

HIGHER EDUCATION

It is at this level that the greatest changes have been made in connection with the Guidelines Act granting educational independence. In addition to the first applications of the Act in various fields of long university education, the newly granted independence gave rise here and there to interesting innovations. In this respect, the most promising changes have occurred in experimental units. The university institutes of technology do not fall within the scope of the Act since they are entirely new establishments, but because of their inherent interest it is desirable to have an idea of the education they are offering.

The Grandes Ecoles, although they, too, for different reasons (autonomy), do not fall within the Act, have not entirely escaped the spirit of reform affecting higher education as a whole.

I. Long University Education

There were no changes in curricula at the time of the 1966 reform except in medicine, pharmacy and dentistry. For the rest, change came only as a result of the principle of educational independence laid down by the 1968 Guidelines Act.

A. The principle of educational independence

The Guidelines Act recognised the right of various establishments to determine their teaching and research activities, their teaching methods, continuous assessment methods for checking knowledge acquired and aptitudes. The statutory nature of the rules and regulations for the various establishments, apart from student guidance and staff status, involves common criteria for awarding national diplomas. The criteria are determined by the Minister, on the advice or proposal of the National Council of Higher Education and Research. Until the Council has met, present legislation, which is particularly rigid (establishment of curricula for all universities in France by the Ministry of Education), continues to be applicable with, nevertheless, greater flexibility, as described below with the aid of a few particular examples. Former rules and regulations are not, in fact, compatible with the independence now accorded the new universities. In a speech before the National Assembly in April 1970, the Minister of Education outlined what future diplomas might be awarded by universities. There would be three different categories.

NATIONAL VOCATIONAL DIPLOMAS

This would be a very limited category including qualifications such as post-graduate degrees in medicine and pharmacy giving direct access to a profession with no other supplementary examinations. Two-thirds or three-quarters of the curricula would in fact be compulsory.

STANDARD NATIONAL DIPLOMAS

A greater number of qualifications would come under this heading, such as "licence" and master's degrees in education or management. Only 50 per cent of the national curriculum would be compulsory. The Ministry or the university concerned could take the initiative in setting up a new training stream and a corresponding diploma.

For these two categories of qualifications, an inspection system would be set up to check the value of the education given. Such inspection would be organised under the control of a committee, responsible to the National Council of Higher Education and Research, on which the various universities would be represented.

UNIVERSITY DIPLOMAS

Each university would be free to award diplomas, for which it would draw up the curricula. These would be submitted as a formality to the committee.

The final decision to be taken in this field demands great attention insofar as it will be one of the basic factors of effective educational independence.

Regarding, in particular, university staff appointed by the government, it is stipulated (Article 22) that they must have been declared by a national body to be capable of exercising the functions for which they have been recruited.

Apart from these limitations, each unit is responsible for the education it offers and its methods. The changes expected in teaching will also be facilitated by the repeal of provisions at present in force concerning the distribution of teaching responsibilities in the form of personally allocated professorships. This provision (Article 24) will enable the dividing up of teaching and research activities within any given establishment to be periodically reviewed.

1) Teaching staff

The latest government Decrees relating to higher education teaching staff show the application of a two-fold principle: greater mobility and a more outward-looking system.

A Decree published in the Journal Officiel dated 17th November, 1968, makes staff appointment conditions more flexible. Ever since 1854 only state doctorate holders for the faculty concerned could be appointed to the faculty. This rule is cancelled and the holder of any state doctorate can now be appointed to any other faculty pending the working out of service regulations for higher education staff.

Additionally, from now on every teacher is appointed directly to the establishment where he is to carry out his duties. This has special reference to IUT's and ENSI's where teachers, hitherto, were seconded from the faculties.

From 1955 on, the "associate professor" posts allowed foreign teachers to practice in French universities. Some faculties took advantage of this possibility (the science faculties, in particular) but the contracts were temporary and there was therefore no way of retaining foreign specialists in France because there was no career security(1). Consequently, in direct implementation of the higher education reform, a paper approved by the permanent section of the Council of higher education has

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1) The contract was renewable annually.

approved a draft Decree allowing scientific specialists of foreign nationality (satisfying certain conditions as to qualifications and experience) to be appointed within the body of professors and senior lecturers. The names of candidates must be put forward both by the Board of the French university concerned and the University Consultative Committee.

Moreover, in the old system associate professors had to serve on a full-time basis: this excluded team direction or the conduct of any large-scale research, which discouraged graduate engineers and business executives. The new draft provides for the recruitment of associates at all levels (professors, senior lecturers, assistant lecturers, assistants and work supervisors) on two-year contracts, renewable indefinitely. Associates(1), unless they are civil servants or state employed, are permitted to work part-time outside the university for up to 22 hours per week. Their status is the same as for established staff of equivalent rank.

These new provisions will mainly benefit IUT's and business administration institutes, whose teaching staff will thus be able to carry on with their profession or occupation.

Additionally, a circular dated 27th January, 1969, deals with recruitment of teaching staff paid through higher education establishments' operating budgets.

These teachers are mainly specialists and other persons not belonging to the traditional university staff. Their role ties in with the new directions education is taking to improve its adaptation to developments in the industrial and private sectors, the special needs created by regional development and the development of retraining and updating facilities.

The establishments are free to recruit staff of this type within the limits set by the funds allotted to them.

These persons can be chosen for their ability and in relation to the individual problems of each establishment, without French nationality or university qualifications being necessarily required.

Persons recruited in this way may serve full-time (education and research activities involving the same number of hours per week as those of normal employment, or double teaching-only time), or part-time, or give special lectures. The payment of such staff will be freely negotiated by the recruiting establishment, bearing in mind the nature and level of education imparted and the weekly hours involved.

Lastly, the Advisory Committee on Universities has been reorganised. This is a joint committee handling all questions relating to the promotion of higher education staff.

Up to 11th May, 1969, the Committee had four divisions, one per faculty. These divisions have now been abolished and replaced by 47 sections to allow for the new disciplines and those crossing over a number of faculties.

Each section has ordinary elected members (professors, senior lecturers and established assistants), and members appointed by the Minister chosen from among the staff of the main higher education and research establishments in a proportion not

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1) Not to exceed 5 per cent of the number of established staff.

exceeding half the number of ordinary elected. The new Committee meets for the first time at the opening of the university year in autumn 1969; its organisation, however, will be modified when the Guidelines Act comes into effect.

2) New rules for examinations in implementation of the Act

Section 20 requires that aptitudes and the acquisition of knowledge are to be regularly and continuously monitored by teachers; end-of-course examinations give an additional test. Tests covering specific subjects are not abolished but have a less exclusive role.

Devising and selecting knowledge testing and checking procedures are the responsibility of the establishments.

However, common rules for the conduct of studies leading to national degrees or diplomas are the responsibility of the Minister of Education with, nevertheless, some areas left to the discretion of the establishments.

But teaching and research units and universities will be completely free to organise degrees and diplomas at their own creation as they think fit and on their own responsibility.

Within the general rules laid down, establishments will decide on testing procedures for national degrees and diplomas. Here a distinction needs to be drawn between the problem of determining procedure (continuous monitoring, part-by-part examinations or end-of-course examinations) and that of examination organisation; the establishment Boards will decide on the choice and weighting of the procedures used, but only the teaching staff (professors, senior lecturers or assistant lecturers) will be responsible for organising the examinations (coefficient-fixing, organisation of sessions, award of degrees or diplomas).

B. Autonomy in Teaching and its Application

1) Humanities

The UER's have been made responsible, within a general framework, for the content of curricula and for organising their own teaching. This had been the occasion for a certain number of interesting innovations in teaching.

a) Organisation of studies

An Order of 1970 tightened up the system of credit units to prevent some abuses noted in the award of diplomas in some departments in 1968-69.

The list of diplomas, licentiates and master's degrees valid nationally is the same as in 1966.

Two-thirds of the first cycle and licentiate timetable, and three-quarters of the master's degree timetable, must be devoted to the subjects laid down in that year.

Credit units (self-contained subjects independently assessed) amounting to at least one and a half hour's lectures or practical work a week must be organised by level according to the three cycles.

At least two teachers, one of whom should be a professor, lecturer, or reader, must be scientifically and educationally responsible for every credit unit.

The minimum time for obtaining a degree complies with the 1966 structure. Only one repeater year is allowed but it is possible to take two different years' work at the same time.

b) Innovations

In the absence of systematic surveys, a few examples will be given here of changes made in teaching and research for a certain number of subjects administered by the former humanities and social science faculties.

i) Centre for higher applied humanities

Before citing other changes designed to develop closer ties between university and working life, mention should be made of the experiment being conducted at the Centre d'études littéraires supérieures appliquées (CELSA) in the old Faculty of Humanities in the University of Paris. This centre has been in operation for five years and provides humanities graduates with education preparing them for working life and assisting them to find a position in the business world. This centre has Grandes Ecoles status and is equivalent to a teaching and research unit as a result of co-operation between humanities and science faculties, the Conservatoire of Arts and Crafts, trades unions and employers. For public and internal relations, firms need management staff with polyvalent training. For this, graduates can obtain supplementary training at the CELSA centred on communication and human relations problems. The centre has two study cycles: a two-year final course leading to a higher studies diploma in social relations, advertising or information-public relations. During the post-graduate cycle, given over to research, students can write a thesis. The Centre's present capacity is roughly 500 students.

As we have seen, the Centre is not of recent vintage but is well in line with the reforms now under way. Experience here will serve as a guide for future schemes of the same type now being set up.

ii) The English Institute of the Sorbonne

When the new universities were being set up, the English Institute was split into three UER's each of which covers the whole range of higher education (undergraduate and post-graduate) while retaining its specific character.

- The UER for literature and the history of thought leads to the traditional competitive examinations for the recruitment of teachers: agrégation and CAPES, as well as for interpreting and translating.

- The UER for literature, civilisation and languages of the English-speaking countries, which is more of an innovation, leads to degrees in education, interpreting, translating and the tertiary sector. After two years of core curriculum with optional subjects (economics, psychology, social history, human geography, translation) the third year leads towards more specialised degrees and the student can train for an occupation in the tertiary sector in conjunction with the centre of applied humanities and social studies.

- The UER for civilisation and educational research is committed to multidisciplinarity. It is constantly in contact with many widely differing UER's. The basic training is very comprehensive, with emphasis on linguistics and literary analysis. Options are extremely varied and cover the whole spectrum of higher education. This UER does not prepare students for the agrégation but only for the teaching tests of the CAPES, dealing rather with educational research (programmed education) and the continuing training of teaching staff.

iii) The German Institute at Asnières

The aim of this institute is to train students of German for teaching, research, administration and business on the basis of practical fluency in the language, knowledge of the economic, political, sociological and cultural situation in German-speaking countries, and the denationalisation of teaching. A certain number of teachers are, in fact, German or Austrian, and student exchanges are arranged, on the approval of the Dean, in the light of equivalence of certificates of education.

Study and teaching are on a full-time basis.

c) Towards a reform of psychology studies

An attempt is being made to arrive at a national diploma in psychology which would include a large amount of practical training.

It is thought desirable to improve the training of psychologists and to define the conditions for the practice of this profession.

So far, psychology has been too closely linked with philosophy, mainly as a result of the background of the teaching body. This led to an ambiguous professional status, ill-defined tasks and inadequately trained graduates. The intention is therefore to prolong these studies and give them a professional orientation.

2) Study of the sciences

No basic change in the direction of greater multi-disciplinarity has so far been explicitly made in the content of science studies, and innovations have mainly concentrated on broadening curricula in the applied sciences. The former applied science degrees had scarcely been successful, and until that time there had been a "division of labour" between science faculties and colleges of engineering (which were usually completely independent of these faculties). Here again, concern for a better adaptation to the needs of society and the increasing number of students obliged some of these former science faculties to promote new types of education.

- Clermont-Ferrand

In 1968-69 a technological training section was set up at Clermont-Ferrand (Central France) - the first step towards the possible formation of a technical university. Parallel with drawing, technology and workshop instruction, complementary subjects will be taught enabling students subsequently, whatever their initial training, to take up management positions in industry (production, applied research, services). These subjects include mathematics, modern languages (using audio-visual aids), and an introduction to the social sciences (by case studies, carrying out surveys etc.).

The future university could subsequently integrate all the higher studies in technology in the region. It would offer a number of different sections: biochemistry, electrical engineering, information systems (with two options: medical statistics and management). A "marketing" section is also to be opened. A one-year introductory course to working life, separate from the experimental university of technology, may also be offered.

- Lille

Other technological universities could be opened. Lille, for example, is moving towards a "université des sciences et techniques" (technological and scientific university), grouping together the present science faculty departments, the Grandes Ecoles and the IUT's in the area.

Set up by an Order of 12th June, 1969, this university is made up of twelve UER's. The education as well as the staff are characterised by their multidisciplinary nature (lecturers, research workers, engineers, technicians).

Technical education is being introduced in the first cycle in order to facilitate subsequent choice between the various possible streams.

After the first cycle, able students go on to second cycle studies (master's degree in education) while the others are channelled to more technological UER's.

- Orsay

At the beginning of the 1968-69 academic year, the Orsay Science Faculty introduced a one-year specialisation in industrial engineering for holders of a Master of Science degree. This education offers six choices:

- mechanical engineering in conjunction with the Central College
- electricity
- radiation physics
- industrial materials (in conjunction with the National College of Chemistry, Paris)
- chemical engineering
- applied bio chemistry.

This specialisation, consisting of lectures, practical work and training periods in industry, leads to a certificate of advanced industrial studies.

Graduates of this course will be specialists in industrial development.

Other vocational training has been made available by this faculty. In addition, a one-year data processing course for first cycle science graduates has been set up. These programmer-analysts receive one semester's training in the faculty while the greater part of the second semester is spent training in a scientific computer centre.

In 1968-69, an unusual course was introduced in this faculty to enable people in full-time employment (particularly assistant teachers and auxiliaries in lycées) to study for a master's degree in mathematics.

The curriculum is studied mainly at home in successive stages. Progress is checked by faculty lecturers.

3) Law and economics

a) Autonomy in teaching and its application

Law and economics faculties

Autonomy in teaching in the law and economics faculties was laid down in the Decree of 19th June, 1969. It particularly related to the educational content of the first cycle, the list and curricula of the optional subjects for the third and fourth "licence" years and the whole of the post-graduate cycle (higher studies diploma /DES/, business management proficiency certificate, general demographics and demographic specialist diplomas and legal studies certificate). For these courses the faculties' newly introduced provisional management boards were required, by 30th September, 1969, to decide on the content of the curricula for each subject and on the timetable arrangements.

An Order of May, 1970, based on the practice of the 1969-70 academic year, stipulated how education should be organised.

Only one-fifth of the first cycle course in law is left free for the student to choose. This share may increase to as much as half of the final timetable (third and fourth year of the licence). Thus the various universities can specialise beyond the first cycle.

In economics, at the request of economists, there is much less free choice:

- 20 per cent of the syllabus must cover economic analysis;
- 20 per cent, quantitative methods;
- 30 per cent, traditional subjects;
- 20 per cent free choice.

The more specialised choices must be approved by the Minister. To facilitate a multi-disciplinary approach, some options may be studied in other establishments.

b) Innovations

The most striking of these concern the reform of examination conditions for the practising certificate (Certificat d'aptitude) for lawyers. The problem is to make the examination, which has tended to be too academic, relate more directly to the profession.

4) Medicine

a) New teaching of fundamental sciences according to the 1960 reform

The 1960 reform essentially consisted of reorganising hospital careers and the basic subjects taught.

Lectures accompanied by practical sessions (laboratory work) are given in the basic disciplines. This is supported from the beginning by the introduction of semeiology in the first and second years so as to give future externs clinical experience. In the third year, pathology becomes an integral part of the course, and in particularly interesting cases or on general problems the professor may call upon colleagues from the fundamental science and clinical sections to co-operate with him on a joint study. In view of the need for a multi-discipline approach, the rigid departmental barriers between one section and another are being gradually broken down. At the same time certain new disciplines are coming into their own, e.g. anaesthesiology, electrocardiology, etc. Elsewhere, the syllabus is being cut down and re-adapted. Certificates for specialised studies are becoming more numerous:

- supervised study in small groups (25) to revise work and review progress. These supervised working groups are actually an officialised version of the former externat and internat conferences;

- clinical training with practical periods in hospital attended by all students as part of the new CHU system which is the keystone of the reform.

b) Autonomy in teaching and innovation: the Montrouge Multi-disciplinary Centre

The aim of this Centre was to outline a common core for biology and medicine at the first cycle stage. This has human biology as a basis but includes various options (pharmacology, dentistry, medicine, biology, veterinary studies, etc.) intended to facilitate end-of-cycle orientation towards paramedical and para-biological careers (health problems).

The common core, besides basic subjects (physiology, anatomy, physics, histology), is based on a close association of human, medical and scientific subjects. In the second year, there would be more choices (four in the first year) in order to develop the scientific approach and give students a real selection.

The idea would therefore be gradually to set up a medical and biological first cycle that formed a whole, and that was organised according to a system of choices and credit units. There would be a continuous, diversified assessment system. This experiment is an important step towards a preparatory orientation cycle for medical and paramedical studies.

5) Autonomy of teaching and new subjects

The various changes cited above have affected the content of the traditional subjects; some of them, that were sometimes poorly taught, have taken their place in university studies as a result of the university's becoming outward looking. New subjects have also been introduced in response to the increasing needs of the contemporary world. One example concerns socio-cultural activities; many more show how rapidly the study of land use planning, for example, has gained ground in a short time.

a) Contemporary expression department at Aix-en-Provence

This department offers several credit units within the existing licentiate framework as options for second subjects:

- Literature and writing
- Literature and ideology
- Poetry
- Study of literary styles
- French films 1920-1925
- Film comedy
- Mystery cult and westerns
- Plays and politics
- Introduction to directing
- Contemporary drama
- Expressive music and literary background
- Introduction to the understanding of a work of art.

This training is given in co-operation with sociologists and the Drama Centre of the Southeast. Aix was chosen in an attempt to achieve intellectual decentralisation by attracting artists to the town who were ready to support the experiment and make contact with the region.

This training should have outlets in socio-cultural activities.

b) Land use and town planning

This subject has been included in university curricula as a result of several very different initiatives taken in Paris and the provinces. It is a new, undefined subject seeking establishment and its introduction is a sign that some people are aware of the need for it, considering that most towns will have doubled their size by the end of the century.

Until now, it has hardly counted as a subject, being scattered among several highly specialised establishments; it was also over-theoretical and the level was low. There were:

- a town planning institute in Paris;
- a section dealing with the aesthetic aspects of land use planning in the Academy of Fine Arts. In addition, the engineering colleges or some Grandes Ecoles would deal with the highly specialised aspects of this subject (architecture), and the faculties of humanities offered sociological and geographical tuition of a highly academic nature.

The education introduced in 1969-70 was a break with the past, offering three cycles that are very differently organised.

At the University of Vincennes there is a three-year licence degree, a four-year master's degree and a two-year third cycle doctorate.

At the university of Tours, the multi-disciplinary department of land use planning is attached to the former faculty of humanities. The two-year first stage includes an extra six-month highly specialised training course (cartography, air pollution etc.). The second stage consists of four certificates and leads to a master's degree in land use planning. A third stage will be added later.

Elsewhere, the second cycle is organised to include a choice of courses for students who do not necessarily wish to become town planners. It is rather a supplementary education annexed to geography, sociology and law departments.

In the same way, the Institute of Political Studies in Paris offers a one-year specialised post-graduate course in land use and town planning. Admission is very competitive and students must hold the diploma of the institute or some other establishment. This training is for prospective town planning administrators.

At the University of Grenoble, the UER on town planning and land utilisation offers a short cycle for those already with experience and chosen locally in close contact with the recently inaugurated study and research centre on economic administration and land use planning.

At Aix-Marseille, the UER on regional development and tourism offers multi-disciplinary education dealing broadly with economics, geography and sociology.

At the Town Planning Institute of Paris (provisionally attached to the Paris-Dauphine University) within the framework of post-graduate education, sixty credit units have been created, some of which cover very new subjects:

- cultural role of the town,
- study of physical aspects of a site,
- economics of urban transport,
- land tenure problems,
- factors in the location of economic activity etc.

Teaching is organised so that work can be done in the field (importance of practical work, seminars, on-site training periods with enterprises and public bodies). This third cycle of two or three years (research) requires three short memoires on a specific topic plus a longer end-of-studies memoire. Instruction is given in the form of seminars (approximately 30) which can be freely chosen by the students. The teachers are often well-known people from outside the university having responsibilities in the field. Finally, continuing training periods will be available for those in the profession wishing to take refresher training.

This new set of subjects relating to town planning and land use planning denotes a definite, if rather disorganised, effort. In this very rapidly expanding first phase, it would be desirable for UER's to specialise.

6) Multi-disciplinary tuition, orientation and new training patterns

The various examples of reform given above show how multi-disciplinary education has been introduced with ever-increasing ease. Such tuition, as far as can be observed, is not restricted to post-graduate education. In this respect, town planning or land use planning is perhaps "too good an example". Both the second and first stages will have to be organised in such a way as to combine various subjects more suitably, some of which are omitted from present courses, meaning that diplomas are unsuited to contemporary needs. This orientation is all the more necessary at the beginning of preliminary university education since it would be one of the main means of introducing an orientation period for students after secondary education. The new universities have not yet progressed far enough for specific examples to be given of this period's implementation as part of a really multi-disciplinary university organisation. We shall therefore deal only with the structure proposed at the former Faculty of Humanities and Social Sciences at Nanterre.

During the first year of inter-disciplinary studies the orientation phase recommended by government decree was introduced. The student selected four study units, each carrying on average three hours of tuition. These units could be chosen freely from the various departments. During the first semester, the student can choose to follow a fifth study unit for which the examination is optional. If a student wishes to specialise immediately, he must choose two study units in the same field and a third one which is considered "complémentaire"; the fourth one can be selected freely. Those who postpone their choice are given, at the end of the first semester and following the results of continuous testing, guidance counselling for choosing a specialisation. This example has been given to show in which direction the present establishments might orient themselves.

The latter nevertheless will be able to offer students the new type of tuition only as and when the new training streams emerge in response to the needs of contemporary society. The Ministry of Education is beginning to undertake this task.

On 30th January, 1970, the Minister set up working parties whose job it is to study new university training streams in relation to the requirements of various sectors of activity. Fourteen of these working parties have been set up by broad occupational field of activity and there is also a co-ordinating committee.

Their programme of work is as follows:

- to make a list of the various training possibilities by sector;
- to draw up patterns of skill relating to technological developments;
- to draw up training streams adjusted to suit employment patterns.

The fourteen working parties cover:

- agriculture,
- energy, mining, iron and steel,
- chemistry,
- mechanical engineering, electrical and electronics industries,
- consumer goods industries,
- building, public works, town planning,

- transport and communications services,
- commerce,
- financial institutions,
- administration,
- health services and social services,
- legal profession and services,
- education, refresher training,
- culture, information, recreation.

These new training patterns must be broader than the occupation itself and must be drawn up in co-operation with the Commissariat of the Plan and the regional and national councils for higher education. But from the end of 1968, some experimental university units have been set up offering multi-disciplinary education and creating new diplomas effectively adapted to the modern world.

C. Experimental Multi-disciplinary Establishments

1) An experimental university for the humanities and social sciences opened in Paris

This university's main purpose is the training of secondary and higher education teaching staff and research workers. A permanent information and guidance commission will study the question of other possible openings.

The University at Vincennes is oriented towards knowledge of the world of today based on the study of humanities and social sciences. It has a number of departments, most of them (19) for disciplines taught as main or dominant subjects. Four others relate to disciplines with no dominant subject (mathematics, information systems, psychoanalysis and educational services); these latter disciplines are envisaged as "tools" for the more integrated and generalised teaching of dominant disciplines, grouped around languages, humanities and the social sciences.

In line with the objectives of the Guidelines Act, a "fine arts department" will be instituted at Vincennes, thus doing away with the present distinction between the artistic and other sectors of education. This department's main task will be to train teachers (plastic arts and drawing, music, cinema and drama). The initial phase of these studies will include a common core enabling students to follow courses relating to other departments.

In general, the experimental centres are based on the following principles: breaking down barriers between disciplines, liaison between education and research, methodological, pedagogic and vocational training at all levels leading to the institution of new diplomas and assisting adjustment to the needs of contemporary life: generalised teaching of modern languages and information handling and the systematic study of career openings.

Details of structures and programmes have been worked out step by step by the entire teaching and student body.

Attempting to sum up at the end of a year's activity (December 1968 to July 1969) shows clearly that a considerable amount of work has been done in sometimes difficult conditions. The straightforward lecture has completely disappeared. There are three marking methods (on written work, participation and defence of a thesis), but there are still examinations for students in gainful employment. Six hundred credit units have been created and distributed over five semesters. Topics and teaching methods have been broadened and reformed, giving greater importance to current affairs. Departments are put together more consistently and more scientifically. For example, in languages, the history and civilisation of foreign countries are taught by historians, sociological aspects dealt with by sociologists and economics covered by economists. One of the credit units was set up for teacher training and is thoroughly educational in character (laboratory techniques, educational psychology, audio-visual aids).

The psychology department deals with educational sciences and learning techniques. It is a kind of service department, training teachers for other departments. The Département of Val-de-Marne had no teacher training college and so teachers were trained at Vincennes; teacher training credit units have been followed up with great interest.

The Anglo-American department offers business or economics choices.

Nevertheless this assessment reveals that real multi-disciplinary education seems to have received but slight encouragement. In most cases, the former compartmentalisation has prevailed. The only really multi-disciplinary tuition is to be found in the history department, the "culture and society" credit unit, which covers the following subjects: literature, sociology, drama, music.

Another favourable point is the setting up of teams of teachers who took their colleagues' courses so as to gain insight into the teaching methods for other subjects in order to organise the common core.

The pedagogic organisation is founded on the following rules:

- continuous year: the time unit is the semester, used as a credit unit; teaching staff will thus be able to alternate teaching and research periods. Combinations of these credit units will lead to university diplomas: the licence, master's degree and doctorate(1);
- continuous day: the establishment will be open from 8 a.m. to midnight so as to be able to accommodate people working outside; the first of the two experimental centres will devote part of its activities to continuing education and to refresher courses for management personnel and teachers.
- continuous marking: the traditional examinations will be discarded and replaced by a continuous marking system throughout the year.
- catching-up courses: in order to make up for the lack of uniformity in level of entrance into the various disciplines.

2) An experimental university devoted to economics opened in Paris

The Paris-Dauphine University's main purpose will be education in those sciences necessary for the development of all "tertiary functions", in particular management functions, in contemporary society. After the first year of study, students would be able to go into short vocational training or the second year of another higher education establishment for social science or to the second cycle of this new university.

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1) For various reasons, financial in particular, the continuous year has not yet been put into practice.

3) An experimental university centre with a scientific basic course opened in Marseilles (south of France)

Training at the Experimental Centre of Marseilles-Luminy, although having a scientific mainstream, is given on pluri-disciplinary lines and linked in particular to economics and business management. A common course is provided for first-year students which includes mathematics, physics, chemistry, geology, a modern language and notions of administration, management and economics. Research centres might also be created at a later date in a number of fields: land development, information systems and underwater civil engineering.

The pedagogic originality of this centre consists in the concentration in time of successive courses in each of the three main subjects (mathematics, physics and chemistry), in order to speed up the rate of learning. For the other disciplines there are lectures only. "Concentrated" education includes a course of lectures covering the essential items and considerable personal work in small groups. A system of this type reacts on the utilisation of the teaching staff. Their teaching task is concentrated into a period of two months leaving them free to devote the remainder of the year to their own research activities and the leading of seminars.

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Overall, whatever their purpose, these three experimental establishments have certain principles in common. Education in all cases is based on small groups of students and "general tools" such as mathematics applied to human and social science, information systems and modern languages (whether the student is or is not specialising) are compulsory. Instruction is given by university personnel recruited under the national Plan and by associate teachers of French or other nationality, not necessarily belonging to the university.

Finally the university centres are of "more human proportions" (8,500 students at Vincennes and 1,500 at Dauphine) which should enable them to fulfil their role as pilot establishments.

As things stand at present, the curriculum in this management centre is as follows:

- For the first cycle:

In the first year the following subjects are available:

- history and analysis of economic and social events;
- economics theory in business;
- mathematics, statistics and accountancy;
- legal, administrative and political framework of economic life;
- modern languages and expression techniques.

In the second year, tuition is the same with an additional introductory course in management methods.

- The post-graduate stage takes the form of study guidance and seminars studying certain basic methods in depth: economic and social analysis, mathematics, statistics, logistics, information, analysis of economic and social problems in organisations, technical and economic problems.

- So far it is not known how the second cycle will be organised. During 1969-70, there was some disagreement within the transitional Board which gave rise to the following proposals:

- organisation of one four-year cycle enabling a clearer distinction to be made between basic subjects and options;
- introduction of supplementary subjects;
- return to the examination system.

The answer to these proposals came in the form of the following Ministerial directives:

- maintain the division into cycles with a view to standardizing higher education;
- introduce supplementary subjects but keep the dominant character of the centre;
- retain continuous assessment.

II. SHORT UNIVERSITY EDUCATION: IUT's

A. Education System Established by the Reform

1) Instruction provided

The courses provide for the interdependence of theory and practice, but with a definite emphasis on the practical side.

They consist of:

- formal lectures: 7 to 10 hours a week;
- supervised studies: 10 to 15 hours a week;
- in-firm training;
- individual work: 15 to 20 hours a week.

The whole course demands about 50 hours' work a week. Regular, full-time attendance is required. No part of the course may be taken more than twice. Students move up to the second year class on the strength of their academic record, which helps to preserve continuity.

2) Curricula and teaching methods

In March 1967, the authorities launched a programme of educational research to collate teaching experience and formulate general principles.

Furthermore, an educational commission was set up for each special field on which teachers, engineers and executives were represented. Its task is to develop, over a period of three years, a unified course of training and improved methods and curricula. Those laid down by Ministerial Decree of 28th June, 1967, are of an experimental nature.

B. Changes Introduced in 1968-69

Lastly, recently published instructions will enable IUT's (training higher technicians in two years) to organise "made-to-measure" courses of education put together to suit the level of each candidate and available both to students who had begun a different type of higher education and to people already in occupations. Hence extension courses will be developed in these recently formed institutes on a full-time or part-time basis, or sandwich courses alternating full-time attendance and evening courses plus continuance in work.

III. NON-UNIVERSITY HIGHER EDUCATION - THE GRANDES ECOLES

The reforms affecting faculty courses as a whole did not extend to the Grandes Ecoles as such. These schools are very varied and have always enjoyed rather special treatment.

The far-reaching reform movement affecting university education does however touch most of them to a greater or lesser extent, despite their high degree of individuality.

It has also been observed that (whatever ministry they come under) the Grandes Ecoles have long since, as a result of the quality of their recruitment and management and the provision of an education oriented towards occupational needs, demonstrated their ability to adjust to social change and their receptive attitude towards the outside world.

Additionally, they have long enjoyed a large degree of autonomy and fundamental advantages conferred on the new universities by the Guidelines Act on Higher Education.

The educational content and that of the curricula were very distinctive. Some of them, however, considered it necessary to reform this education.

A. Traditional Educational Content of the Grandes Ecoles

1) Type of training provided

The course includes general all-round training, combined with more advanced technical training, with a threefold aim:

- to develop the scientific knowledge acquired in the preparatory course;
- to provide a general grounding in the industrial sector envisaged;
- to evolve a method of work appropriate to the demands of industrial efficiency. The training thus calls for rapid powers of assimilation and a strong physical constitution. The programme forms a consistent whole, and constitutes a sound, comprehensive stock of knowledge. The course involves a number of oral examinations and periodic performance ratings. The students enjoy exceptionally good teaching and working conditions: while the teacher-student ratio at the university is 1:20, it is 1:1 at HEC. Excellent results are thus obtained, with something approaching 100 per cent success.

2) Consequences of the system

The consequences are both quantitative and qualitative:

a) Quantitative effects

The engineering schools train an élite, but a numerically small one. While requirements for higher management staff rise by 3 per cent per year, the supply now falls short by about 15.9 per cent(1).

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1) Source: "Les conditions de développement, de recrutement, de fonctionnement et de localisation des Grandes Ecoles" (The development, recruitment, functioning and location of the Grandes Ecoles): La Documentation Francaise, recueils et monographies, No. 45.

One reason for the shortage is the small field of recruitment. This is due, first, to the small number of pupils in the long secondary cycle who take the mathematics baccalauréat because secondary education is biased towards the arts, and mathematics is taken up too late and, secondly, to the difficulty of the competitive examinations and the selection procedure for enrolment in the preparatory classes.

b) Qualitative effects

Despite the exacting standards of the Grandes Ecoles, the results are not always beneficial: too much emphasis is often laid on the theoretical side at the expense of general education, which is frequently superficial owing to over-specialisation. The curriculum, which is often very heavy, leaves little time for individual work. The student concentrates all his energy on assimilating knowledge so as to acquire a sufficient stock to last him all his working life (the notion of continuing education is unfamiliar to most former pupils of the Grandes Ecoles).

One common feature of these establishments, with the exception of the ENS's, is the importance of the final rating; it may be decisive in some cases (ENA's and Polytechnique) and determine the student's professional future after he leaves; in any event, the rating is important, and this fosters a competitive spirit between individuals and colleges, which is ill-suited to community life and team work.

B. Examples of Reforms Introduced as a Result of the Approval of the Guidelines Act on Higher Education

The disturbances of May - June 1968, as well as the passing of the Guidelines Act on Higher Education, naturally affected the functioning of colleges whether or not these were administered by the Ministry of Education. Some showed their willingness to be much more closely integrated in university education than before; others, while retaining their complete independence with regard to the Guidelines Act which did not concern them, nevertheless proceeded to alter curricula and the style of education. Changes begun before 1968 were made much easier as the independence and outside contacts of these colleges broadened.

One example is the School of Modern Oriental Languages, illustrating the first orientation; other schools will be cited later.

1) School of Modern Oriental Languages

This school is to become a university centre, being made subject to the provisions of the Guidelines Act and no longer directly attached to the Ministry of Education. But the question of whether it is to retain its present autonomy or be incorporated in the Paris area universities is yet to be decided. Its statutes will be finally decided by constituent boards elected by the same methods as for the universities.

The Decree of 10th April, 1969, lays down that, in any event, the new centre is to retain the character of a higher education and research centre. It has the following characteristics:

- In association with the universities, the establishment will provide complete courses of education on the languages and civilisations concerned, leading to diplomas having national status equivalent to those of other higher education establishments. The particular nature of the subjects taught, the varied requirements, the wide recruitment range and the diversity of the countries concerned make a continuous-year, continuous-day organisation necessary. The school will also need to play an important role in research on the non-western world. This principle is an attempt to correct the maladjustment of traditional education, i.e. purely linguistic studies finishing with a school diploma with no university equivalence and insufficient features related to these countries' civilisations, a deep knowledge of which is essential at the present time. Indeed, for the most difficult languages, students had to forego university studies (or take them up late, after three years' study of modern oriental languages), and in so doing abandon hope of the most interesting careers. The setting up of an integrated form of education seems therefore essential.

- Diplomas would have a pluri-disciplinary character. To define their curricula it would be necessary to take account of the specific nature of the subjects and the variety of needs to be served. Students' motivation will in fact help to determine the teaching programmes required for four types of students:
  - Those wishing to specialise in a geographic and cultural linguistic field and needing long full-time education;
  - Those of other establishments wishing, in their own discipline, to acquire special knowledge in one of the above fields;
  - Students wishing to take up an occupation in one of the countries concerned, demanding a thorough knowledge of the language and needing intensive but practical instruction;
  - Lastly, those needing a practical knowledge of the everyday language, and the technical language of their trade (engineers, technicians, technical assistants). These students need a lightweight course using audio-visual aids (which are unknown in the school at the moment).

On the basis of the above criteria, three types of education would be organised to run in parallel, the first leading to national diplomas and the other two to the establishment's own diplomas. These would be a long, an intensive and a simplified course respectively:

- the long course would be divided up into three two-year cycles on the same lines as university education;
- the intensive course, essentially practical in character, would give translators and interpreters their basic training;
- the simplified course could be divided up into a number of short periods (3 months) of increasing difficulty to suit the level of knowledge acquired or sought.

New diplomas at three levels organised by the University Centre of Modern Oriental Languages (CULOV)

- Introductory certificate

This is a matter of acquiring a practical knowledge of the language. Credit units are required(1). There are ten credit units - eight relating to languages, and two to civilisation - spread over four semesters. Students take three or four years to complete this course, following other studies at the same time.

- Diploma

This consists of a certificate and ten credit units (six for languages and literature, four of which at the centre; and four for civilisation, two of which at the centre). It is a one-year course.

- Higher diploma

This requires a further year's study and consists of two choices, one language and one civilisation. The Centre teaches 47 languages divided among eight UER's:

Oriental Europe
U.S.S.R.
China
Korea, Japan
Southeast Asia
India and Pakistan
The Near East - North Africa
Africa

The Centre has entered into agreements with other universities (Sorbonne, Nanterre, Institute of Political Studies) because it cannot provide all the credit units alone.

2) Some examples of changes introduced in the Grandes Ecoles

In l'Ecole Nationale Supérieure d'Aeronautique (the National College of Aeronautics), the professors and assistants have formed teams for the purpose of teaching small groups.

L'Ecole Spéciale des Travaux Publics de Paris, (Special College of Public Works) has introduced educational reforms. The subjects taught are divided into two groups (compulsory attendance for one; not for the other). Testing has been reorganised primarily to help students assess their own progress; the grading system will be discontinued.

Reforms have also been introduced in the Polytechnique applicable as of the 1969 academic year. Given the purpose of the college, which is to train future executives for technology and industry, a number of measures have proved essential with regard to teaching organisation:

- the allocation of professorial chairs as such has been discarded;
- departments have been set up;
- the number of lectures has been reduced and team work increased.

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1) One credit unit (UV) = 3 hours' lectures and practical work per week for one semester.

Students still have military status, but the two-year course is not interrupted by a military training period between the entrance examination and the time of joining and leaving the college.

For some years now some Grandes Ecoles, engineering colleges in particular, have changed their curricula and teaching methods as technological developments made this necessary. There has been a more open attitude towards research, which unfortunately only served to resurrect the more general, unresolved problem of co-ordination and double service in terms of equipment and teaching in science faculties. Nevertheless, teaching reform activities like those undertaken at the Nancy Mining College enable some colleges to adapt more rapidly than the faculties to the specific demands of the contemporary world.

Title 3

RENOVATION OF THE SPIRIT OF EDUCATION

Chapter I

OBSERVATION AND GUIDANCE

The major effort made in reorganising and renovating educational structures is meaningful only to the extent that pupils and students derive the maximum benefit from it. They must therefore be guided towards the school or university courses best suited to their aptitudes, in order that they may subsequently find an occupation in keeping with their abilities. The guidance function of the Ministry of Education is therefore the keystone of the educational reform.

In addition to its repercussions on the individual, guidance must also be considered from the socio-economic standpoint, one of the basic objectives of education being, after all, to prepare people to take their place in the working world. This means that students and pupils must be oriented in directions offering definite outlets, failing which educational development becomes a factor of social crisis rather than of progress.

There are therefore two distinct aspects of guidance: academic guidance in choosing the most suitable type of course within the structures of the education system, and vocational guidance in choosing the most suitable branch of activity within the structure of the economy. The two types of guidance alternate during the educational process but may merge in certain periods of schooling, especially throughout the optional schooling period, in which the type of course selected (general or technical, long or short cycle) reflects an implicit choice as to the future type of work. Generally speaking, guidance is essentially academic during the compulsory schooling period and takes on a vocational aspect in vocational or technical courses training people for a specific trade or function, whatever the level of the course.

The relative emphasis placed on the two different types of guidance has varied over the years. Prior to 1959, the year in which the reform was initiated, guidance was purely vocational and was given to pupils leaving the primary schools for school or post-school training as skilled manual or clerical workers, depending on whether or not they had completed the compulsory schooling period.

The 1959 reform added two years to the compulsory schooling period and, in so doing, introduced a two-year cycle of academic guidance which was extended to four years in 1963 when the first cycle of secondary education was given its definitive form. Following the reform of higher education in 1966, the creation of long and short second cycles in secondary education, the Guidelines and Syllabus Act on Vocational Training and various reforms introduced between the end of 1968 and 1970, a new and more complete system of academic and vocational guidance was to be set up during the second half of 1970.

In pace with the implementation of the reform and with the development of the guidance function of the Ministry of Education, guidance criteria have themselves evolved: The purely subjective criteria, often ill-founded or motivated by social prejudice, have been replaced by more objective ones based on aptitude testing. Such testing may take different forms, including tests and exercises to determine the pupil's background, or achievement, aptitude or personality tests (of secondary importance and reserved mainly for difficult cases), and, above all, continuous observation of pupils throughout their academic career, with individual files containing information not only on the pupil's academic performance as such, but also on his social and family environment, together with any additional information likely to form a basis of assessment.

There has also been a trend away from localised guidance at the end of the primary school cycle or at the time of choosing a trade towards continuous guidance with a number of more or less decisive orientation plateaux. There is, in fact, no point in waiting too long for aptitudes which do not manifest themselves and thus retarding the development of those already discerned, albeit for the less abstract subjects. It is in the interests of the individual and of society as a whole that it should be possible to turn in good time to a path leading to a place in the working world rather than to work painfully towards a baccalauréat without any real possibility of going further. The aim of guidance is therefore to detect and, if necessary, to stimulate aptitudes so that the orientation adopted is not dictated by failure and, at the same time, to keep pupils from entering a blind alley. This is why the first orientation plateau has been pushed back since 1959: once located at the beginning of the 6e (1st year secondary, after five years of primary education), it has been put back to the end of the 3e (4th year secondary), which marks the end of the first cycle of secondary education.

Guidance is thus a highly diversified mechanism which has only recently been introduced in France and is being established gradually. The trends that may be discerned are rather the result of successive reforms than the fruit of experience and many problems still remain to be solved.

I. VOCATIONAL GUIDANCE PRIOR TO THE 1959 REFORM

Vocational guidance was instituted by the Decree of 26th September, 1922, but was not really organised until the Decree-Law of 24th May, 1938, the provisions of which were incorporated and amplified in the Decree of 14th September, 1956, regarding the regulations governing technical education.

A. Organisation

Vocational guidance, which comes under the Directorate for Technical Education, covers all operations aiming at detecting the physical, moral and intellectual aptitudes of young people with a view to their placement in commercial and industrial firms. A number of different bodies at various levels are responsible for the functioning of the guidance mechanism, including a Vocational Guidance Inspector at the level of each "Academy", a Secretariat at the level of the département and, lastly, Vocational Guidance Centres.

1) The Vocational Guidance Inspector, who reports to the Inspector for his particular Academy, ensures liaison with the Directorate for Technical Education and sees that the Secretariat and Centres are run properly.

2) The Vocational Guidance Secretariat, placed under the authority of the Préfet, is an administrative and supervisory body composed of a Secretary designated by appointment and an administrative committee grouping persons selected from the departmental councils of technical education and including a representative of the Minister for Social Affairs, vocational guidance counsellors, educationalists, industrialists, shopkeepers, manual and clerical workers, etc.

The departmental Secretariat co-ordinates the activities of the various Centres, assigns the schools within the département to the various mandatory Centres (set up by the Ministry) or optional Centres (created through local initiative) under its responsibility, and appoints one of the departmental medical inspectors as medical vocational guidance counsellor for schools too far away from any centre.

In addition, in collaboration with the Inspector for technical education, this Secretariat ensures liaison between the schools and the Centres, departmental manpower services and public placement agencies which keep it informed of developments in the labour market.

3) Lastly, a mandatory Vocational Guidance Centre is set up by the Ministry in the capital or in the largest town of each département and, in addition, recognised optional Centres may be created at the initiative of local municipalities, professional associations or other groups (chambers of commerce, chambers of agriculture and trade). At these centres vocational guidance counsellors advise children completing their primary education(1) on choosing and learning a trade. They thus take part in the placing of pupils in the various technical education establishments (apprenticeship centres, technical training colleges, national vocational schools, etc.). They follow pupils during their school career and make any reorientations as may be necessary. Lastly, they ensure liaison between such establishments and the public placement agencies (the Centres were reclassified as government services by the Finance Law of 17th December, 1966). The Order of 30th April, 1938, stipulates that each Centre shall have a council for advanced technical education to supervise its activities, give an opinion on all technical questions, facilitate liaison between the Centre and the various bodies concerned with its operation and, in particular, examine each year, in relation to the manpower situation, the outlets available for young people taking the guidance test.

4) The guidance mechanism works as follows. At the end of the compulsory schooling period the principals of the public primary schools are required to complete a standard card for each pupil, indicating the child's intellectual aptitudes. The pupils are then examined by the medical officer at the Centre or school and a medical card is drawn up, mainly in order to bring out any eventual contra-indications. This file is sent to the Centre. The Centre then makes its assessment and the results are transmitted to the Vocational Guidance Secretariat, which notifies the parents. Nevertheless, while the mechanism thus provides a basis for judgement, the families remain free to make their own choice.

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1) When pupils have completed the period of compulsory schooling and wish to become apprentices, the Chambers of Trades are obliged to give them an aptitude test in order to guide them appropriately in accordance with labour market trends.

B) Limitations

Despite the effort it involves, this is a limited mechanism of little significance. For one thing it comes into play only at one specific point in the child's school career, with no prior preparation, and is restricted to guiding his choice of a trade at the skilled manual or clerical worker level.

Then again, the actual guidance mechanism is quite rudimentary and in certain cases involves no more than examining pupils' cards, with apparently little other effect than to avoid the more obvious contra-indications.

And finally, consideration of the state of the labour market is incomplete, unrelated to the long-term outlook, and apparently based solely on the short-term outlook: the result is that a number of people with highly specialised proficiency certificates (e.g. in the textile industry) have never been able to find work in the trade which they have learned.

II. THE TWO-YEAR ORIENTATION CYCLE AND THE SCHEME INTRODUCED IN 1960(1)

This constitutes the first attempt, in France, to provide academic guidance based on the actual observation of pupils during a two-year period.

A. Organisation

This is an academic guidance scheme in the true sense, set up within the compulsory schooling period, with two plateaux, respectively at the beginning of the 6e (pupils aged 10 to 11, completing the second year of the intermediate course, i.e. their fifth year of primary school) and at the end of the 5e (pupils aged 12 to 13 completing the second year of the guidance cycle, i.e. their seventh year of schooling). Continuous observation is provided between the two plateaux.

1. Enrolment in the guidance cycle and admission to the 6ème

At the end of the second year of the intermediate course of elementary education the records of all pupils are examined to determine whether they have satisfactorily assimilated the primary school curriculum before being allowed to enter the observation cycle. This school record contains the candidate's date of birth, his overall class rank and his rank by subject, written tests, a detailed teacher's report on the child's preferences, aptitudes, behaviour in and outside class, information concerning his family environment, health (medical file), etc., as well as his parents' preferences.

These files are examined by a departmental commission whose members are appointed by the Inspector of the Academy, who is also Chairman. This Commission groups people from the public education sector (principals of general and technical secondary establishments, primary school inspectors, principals of general secondary education establishments, teachers of 6e classes, primary teachers of second year intermediate classes), a representative of the academic and vocational guidance services (formerly vocational guidance, see I above), a doctor from the departmental school health service, and three parents' representatives. The Commission studies the files and draws up a list of candidates likely to benefit from an observation cycle. The remaining candidates are oriented towards the so-called transition classes. Pupils from private establishments, together with public school pupils

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1) Order of 2nd June, 1960, application of the Decree of 6th January, 1959, on educational reform.

whose parents contest the decision of the departmental commission, can take an examination for admission to 6e held once a year in June. The papers of pupils passing this examination are added to the files submitted to the departmental commission for use in assigning candidates.

On the completion of this process, the pupils entering the 6e are assigned to a specific establishment(1) chosen with regard to the family domicile, to any special situations mentioned by their parents, and to the intake capacity of the various establishments. Families remain free to choose the type of education but the commission's opinion entitles the pupil to priority of enrolment in the various establishments.

2) The observation cycle

a) Organisation

At national level, a Ministerial Guidance Council presided over by the Minister compiles the information in the reports submitted by the general inspectors and gives the necessary directives. At departmental level, a Departmental Academic and Vocational Guidance Council is responsible for establishing guidance groups and co-ordinating their activities. Such groups cover five to eight classes of the same level from different establishments.

Each group has a corresponding guidance council grouping teachers from each class within the group, a representative of the academic and vocational guidance service, and the district doctor from the school and university health service. The guidance council meets at the end of each term to consider the opinions given by the class councils (cf. below) and receive the family's observations; it then prepares its reasoned opinions and advice and sends these to the families.

At class level, the teachers hold regular class councils (nine meetings per school year) throughout the guidance cycle, under the supervision of the principal teacher. The latter is designated by the school principal, under whose supervision he is responsible for co-ordinating the teaching of the various teachers, compiling their observations as noted in the individual records for each pupil, keeping in touch with the families and with the medical and social services and the academic and vocational guidance services. The principal teacher, together with a colleague teaching a different subject, represents the class council on the actual guidance council. Under the supervision of the principal teacher, the class council establishes the individual record for each pupil and arrives at the opinions to be submitted to the guidance council.

b) Guidance bulletin

At the end of the first three-month term of the guidance cycle, which is the same for all 6e pupils, the parents receive a reasoned opinion on what seems to be the best choice of course for their child. The pupil may be advised to transfer to another establishment, where a place must be found for him. Parents are left free to make their own decision. Similar bulletins may subsequently be sent to the parents, if warranted, but in any case parents receive another bulletin at the end of the 6e.

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1) Guidance cycles are provided in the lycées, the Collèges d'enseignement général and the terminal classes of primary education.

At the end of the guidance cycle (end of 5e, i.e. the seventh year of schooling), families receive a guidance bulletin indicating the type or types of education that appear best suited to the pupil's aptitudes. There are five possibilities: terminal classes, short-cycle vocational education,long-cycle technical education, short or long general education. If the family complies with the guidance bulletin, the pupil is entitled to go straight into the course in question, and enrols in the nearest establishment. Should his family prefer another type of education, the pupil must take an entrance examination.

Since 1960, pupils completing the guidance cycle in the least favourable conditions (terminal classes in primary schools, in particular) and demonstrating an aptitude for long-cycle general or technical education can enrol in special adaptation classes at 4e and 3e level (8th and 9th years of schooling), offered in classical, modern or technical lycées. Observation and guidance in such classes continue on the same lines as above.

B. Limitations of the System

Organised in accordance with the principles laid down by the Law of 1959, guidance remains partial and superficial. It is partial insofar as it reaches only those pupils actually enrolling in the guidance cycle upon completing their "normal" primary education. For those who do not get into the 6e, the so-called transition classes have been created and the terminal classes are maintained.

It is superficial, owing to a combination of structural, pedagogical and social factors. The secondary education reform has brought no change in the structure of guidance, which continues to be offered in a variety of different establishments whose geographical distribution is far from uniform. Guidance may in certain cases involve transfers to another establishment, but this is not always possible (intake facilities), desired or desirable, owing to the distance. This difficulty is aggravated at pedagogical level by the fact that the various establishments have kept their own curricula and teaching methods.

Any scheme of guidance incapable of countering the geographical and sociological factors governing enrolment in establishments non-uniformly distributed throughout the country is thus rendered illusory.

In the last analysis, the orientation plateau consistuted by the 6e is still decisive, as the reasons just mentioned leave little scope for subsequent changes: but, as seen above, this orientation plateau is based on past attainment rather than on future potential.

III. THE FOUR-YEAR GUIDANCE CYCLE AND THE SCHEME INTRODUCED IN 1963

This Decree of 3rd August, 1963, reorganises secondary education around the new first cycle, which has been extended to cover four years (6e to 3e, i.e. the sixth to ninth years of schooling), thus prolonging the period of academic observation. The mechanisms remain as described under II above, but the conditions in which they work are different and it is these that give the system its coherence. Since 1963, all pupils in the second year of the intermediate cycle have been enrolled without any examination in the first cycle of secondary education in non-specialised establishments which group different sections.

Diagram III shows the various orientation plateaux contained in this cycle. The first major plateau is at the end of the 3e, the options being a long general or technical course, a short vocational course, or more or less immediate entry into working life.

The 1963 stage is of vital importance in the organisation of academic guidance, which becomes continuous over the last four years of the compulsory schooling period; its importance lies not so much in the mechanisms involved, which are the same as in 1959, but rather in the effort made to achieve greater coherence in educational structures, teaching methods, curricula and facilities. Clearly, guidance at any given level (in this case, the 6e and the 3e in particular) is meaningful only in relation to what precedes it. A longer compulsory schooling period means a higher level of general education for the entire school-age population and involves setting up hitherto non-existent educational guidance mechanisms - all of which would have been meaningless without the structural reforms described in Part One.

The new system does, however, have its limitations. Pupils attending first-cycle establishments (CEG's or CES's) are assigned to different sections with curricula and teaching methods still more or less sub-divided into the traditional compartments. Also, the orientation which would be the most appropriate at the end of the 3e is, to a considerable extent, pre-determined by the course taken during the first cycle. While the creation of additional CES's may lead to greater effective mobility of pupils through the cycle, the existing structures do not provide full mobility.

IV. GUIDANCE AFTER THE COMPULSORY SCHOOLING PERIOD (Second cycle of secondary education; higher education)

After the compulsory schooling period, career preparation becomes an increasingly important factor in the choice of studies. The reorganisation of the various types of education has been accompanied by the creation of a number of guidance procedures. These, however, are still rudimentary and have not always given rise to specific legislation. It is, moreover, doubtful whether such procedures are definitive. By and large, the mechanisms are less elaborate and more flexible than those covering the compulsory schooling period.

A. Guidance in the Short Second Cycle

In this type of course, the guidance bulletin sent out at the end of the 3e obviously plays a large part. Once enrolled in vocational training establishments, pupils are counselled by the guidance services described under I of this Chapter.

B. Guidance in the Long Second Cycle (Decree of 10th June, 1965) and at Baccalauréat Level

We shall not repeat what has already been said in Chapter I, Title 2, Part One concerning the new structures of the long second cycle, but shall merely recall that the 2e class has three relatively unspecialised sections, the 1e five more specialised sections, and that where there is no examination at the end of the 1e admission to the terminal classes depends on the guidance bulletin.

A large number of options are offered throughout the three years of the long second cycle. For example, pupils from the technical section of the 2e can, on entering the 1e, take courses leading either to the Technical Baccalauréat and then to higher education or to the Technician's Baccalauréat qualifying for admission to the university institutes of technology. The guidance mechanism is also quite flexible with regard to enrolment in the terminal classes. One month before the end of the school year, the pupil indicates his choice of section. After examining his school record, the class council may decide to admit him, to make him repeat (possibly in another section), or to accept him in another section. The pupil is notified of this decision by the principal. Pupils maintaining their first choice against advice to the contrary must take an examination. The cycle therefore leads to five types of baccalauréat and two types of Technician's Baccalauréat which, to a considerable degree, determine the type of higher education to which the holder has access. Except, however, in the case of holders of a baccalauréat in the humanities, who, unless a waiver is granted, do not qualify for admission to a Faculty of Science, there are no hard and fast rules and there is always the possibility of obtaining a waiver on the basis of the school record.

C. Guidance Schemes in Higher Education (Decrees of 7th January, 1966, and 23rd June, 1966)

Guidance at this level is highly flexible, and comes into play at the end of the first cycle in the Faculties of Humanities and Science. Each candidate receives optional advice, from either the examining board or a special panel, on the orientations most suited to his aptitudes as evidenced by his academic work and by the results of the examination at the end of the first cycle. There are three alternatives: a master's degree, a "licence" or enrolment in a university institute of technology. The alternative recommended to any given candidate depends on his performance in work involving abstract reasoning or applied intelligence. At university level, students can obtain career information from the University Statistics Office (BUS).

Thus it is that the higher the level of education, the less well defined are the mechanisms of guidance. In point of fact, guidance is geared mainly to the compulsory schooling period, to level-V vocational training and to second cycle courses - all of which converge at the guidance plateau at the end of the 3e. Thereafter, the pupils' own inclinations come into play. While these must, of course, be taken into account, the current trend of higher education by type of studies corresponds neither to the planning forecasts nor to the pattern of manpower requirements, insofar as the latter are accurately known. Furthermore, partial surveys are beginning to show a high rate of drop-out and wastage in higher education. The choice of a career, while less urgent for adolescents spending an increasing number of years in school than for children going to work at the end of the compulsory schooling period, is nonetheless the culminating point of an education. It was therefore desirable to provide more methodical and, at the same time, more varied guidance for all higher and long secondary courses.

V. THE SETTING UP OF A NEW SCHEME OF INFORMATION AND ACADEMIC GUIDANCE

The latest provisions are designed to supplement the machinery described above and thus increase its effectiveness. It is necessary if the latest reforms of the various types of education and the Guidelines and Syllabus Act on Vocational Training of 3rd December, 1966, are to be fully meaningful. At the outset, some difficulty was encountered in introducing guidance, as described under VI of this Chapter, and there is thus some doubt whether the objectives of the Fifth Plan, insofar as education is concerned, will be attained.

The purpose of this additional effort is to expand information and to provide a more thorough and more specific scheme of guidance. The first task involves improving our existing knowledge of manpower requirements through suitable socio-economic studies, the results of which will be adequately disseminated to give parents and adolescents an idea of the range of courses offered and of employment outlets in the short, medium and long term. /This task has been entrusted to the National Information Office on Education and Occupations (ONISEP)./ The second task involves setting up a specific scheme of guidance geared, so as to be more effective, to a broader context than that of the multi-section educational establishment.

In order to attain this two-fold objective, structures will gradually be set up at several levels.

A. National Level

There will be two separate units working in close co-operation.

1. Since March 1970(1) ONISEP, referred to above, has been responsible for drawing up the documentation necessary for information and guidance and making it available to users: the press, universities, the Employment Agency(in the context of continuing training) trade organisations, the Information and Guidance Service of the Ministry of Education, etc.

This need for information is not in fact confined to schools and universities; some users are already at work. The specialist user services will therefore be mainly academic and vocational guidance centres made over into information and guidance centres, and the Employment Agency. ONISEP was set up on the basis of the Bureau Universitaire des Statistiques (BUS - University Statistics Office) which proved very useful at national and local levels in informing the public more fully about various job requirements and the content of various types of training. On the basis of this experiment, ONISEP broadened the original function of BUS, and changed its organisation so as to meet an ever-increasing need for information. The guarantee of the range and objectivity of its information lies in the membership of its governing body. One-third are Ministry Directors (involved in information distribution) one-third are representatives of the business world (management and labour) and the final one-third represent teachers, parents and students. There are also three independent members chosen for their outstanding qualifications and three representatives of ONISEP staff.

The scientific guarantee of ONISEP's work lies in the membership of the recently inaugurated Qualification Study and Research Centre (CERQ) administered, under the authority of the Director of ONISEP, by a director assisted by a refresher training board (the most competent bodies carrying out studies and research in boardering areas of interest will be represented on this board). The CERQ is responsible for analysing jobs, trades and occupations. Studies will not

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1) Decree of 20th March, 1970.

only be descriptive of the present situation but also prospective: the broad lines of those developments that will tend to be accelerated by rapid changes in techniques will have to be defined. The Centre will not limit itself to analysing trades and occupations but will relate them to training; it will study the relationship between the skills imparted by curricula and training methods and the skills required by the jobs themselves. CERQ, and through it ONISEP, will play an important part in steering training policies both in the Ministry of Education and in other sectors responsible for training.

2. Again at national level, there is a service responsible for steering the action of academic information and guidance services. It should be pointed out here that as part of the reform of central administration in March 1970, a post of Director of Objectives was created, delegated to continuing guidance and training. The holder of this post, as well as those holding posts as Directors of Objectives for higher education and research and for primary and secondary education, sit on ONISEP's Governing Board. By the end of 1970, several laws will have been promulgated organising new information and guidance services at local level.

(a) A general enactment has already established the framework of guidance in the first years of higher university education. One of the major innovations of the Guidelines Act on Higher Education (1968) was drawn from previous experience at other educational levels and applied to preliminary university studies in order to avoid what has been called "negative selection" consisting of a particularly high failure rate at the beginning of higher education. Therefore "exploratory periods" have been organised for newly enrolled students after they have been given guidance "recommendation" (this may cover higher education institutes other than universities); if the student accepts there is no problem, but if he wishes to continue in the choice of his own making, he has to go through another exploratory period after which "recommendation" becomes compulsory. It would be advisable to wait until the new universities have been finalised so as to know exactly which methods they have each chosen to organise this "selection period" and to gain some idea of the first results. It is clear that universities will be among ONISEP's biggest "customers" in the matter of fulfilling this new guidance function.

(b) Regarding primary and secondary education, decisions taken by ONISEP in 1970 were largely based on the conclusions of the Ministerial Commission that had begun its work in the latter half of 1968. At this stage only the broad lines of the Commission's proposal can be given:

- the purpose of guidance is to help the student reach the highest possible level of training concomitant with his aptitudes;
- this presupposes continuous and overall observation with particular emphasis on educational psychology aspects in the early years and later on pre-choice preparation;
- it is the education team for the class that directs guidance.

In this form guidance is an essential means of democratising education.

- The education team

Apart from the group of teachers this should include the doctor, welfare worker and a specialist in psychological, information and guidance problems.

The specialist's function is continuous and of an educational psychology nature right through from nursery school to the 5e, after which it also embraces a considerable amount of information and documentation work.

- Staff

The main aim must be the creation of a single body of psychological counsellors with a single statute. There would be two options:

- adaption observation;
- information observation.

Their training would be carried out in a special institute over two or three years, depending on recruitment examination level (first cycle of higher education or "licence"). The course would include a common core before diversifying along the lines of the options selected.

- Procedures

There would be streaming and admission appeal facilities and a placement department under the control of the academic regional inspector.

B. Regional Level

The transposition of two national bodies is found at regional level: a branch of the ONISEP and an academic region information and guidance service. This service is closely linked to a directive unit whose head been appointed on the basis of his acquaintance with the problems of information and guidance of the particular academic region in question. Through this unit a close association is assured between those drawing up and those using the information.

Placed under the Rector's supervision, the regional branch is responsible for adapting information to the specific characteristics and requirements of each region. This is an essential task that can only be done through direct contact with the real situation. It is particularly interesting for a knowledge of continuing training schemes where the activities undertaken are becoming increasingly local and diverse.

The head of the regional branch of the Office is assisted in his work by a technical committee made up in much the same way as the ONISEP Governing Board. It includes representatives of regional administrative services, one teacher and one student representative from the regional council for higher education and research, and parent/teacher representatives. The Rector, after consulting the committee, may appoint independent members with special qualifications.

The academic region information and guidance service will co-ordinate the actions of the new information and guidance centres responsible for individual information at local level.

C. Local Level

Information and guidance centres will take the place of the former public academic and vocational guidance centres, and in principle one will be set up in every Academic Region over the next few years. Specialised competent staff (the guidance counsellors) will also work in schools, taking part in class boards within the framework of the general principles set forth under A.2. above.

The role of ONISEP and its co-ordination with the various Ministry of Education services are given in Diagram IX. The various measures that have just been taken were particularly necessary since effective guidance for students in recent years had proved most unsatisfactory.

Paragraph VI below assesses the guidance machinery as it has been until now. It is clear that the enrolment ratios forecast in the Fifth Plan for various types of second cycle secondary education are far from being attained, while this general increase in training was an inevitable and logical consequence of extended compulsory schooling. It therefore seems a priori that better information for teachers and families, together with a guidance machinery that gradually takes more and more account of the students' aptitudes as they emerge, will tend to make student guidance much more helpful than it is at present.

VI. DIFFICULTIES IN INTRODUCING AND DEVELOPING GUIDANCE

Prolonging the compulsory schooling period implies additional training for the entire school-age population - and this is essential for economic development. This being so, the Fifth Plan, taking into consideration the requirements of qualified manpower, the creation of new educational structures, and the plans for building new types of schools, had predicted a pattern of enrolment for the first and second cycles of secondary education for 1972-73 (the date at which all the facilities called for under the Fifth Plan and the guidance scheme were to be definitively set up). Things being as they are, however, it seems unlikely that the objectives of the Fifth Plan can be attained as arrears are accumulating year by year. This is analysed below for the first and second cycles of secondary education.

A. Breakdown of Enrolments in the First Cycle of Secondary Education (public education)

1) Trend of enrolments forecast by the Plan

According to the Fifth Plan, the breakdown of the school-age population in 1972-73 should be as follows, combining the breakdowns for the CES's and CEG's (assuming that the CES will account for 80 per cent of the total in 1972)(1):

- handicapped children in special establishments:
  5 per cent;
- transition sections and practical terminal classes:
  25 per cent;
- short modern sections (CEG's): 27 per cent;
- long modern sections (lycée-type): 27 per cent;
- classical sections: 16 per cent.

As compared with the situation in 1964-65, this represents an increase in lycée-type education (43 per cent as against 26 per cent), relative stability in short modern-type courses (27 per cent as against 31.5 per cent in 1964-65 with losses to the lycées just about balancing gains from the terminal classes that are abolished), a decline in terminal courses (25 per cent as against 40 per cent in 1964-65), and a further 5 per cent for handicapped children.

However, in connection with the implementation of the Fifth Plan shortfalls have been observed which would not constitute grounds for concern were it not for the fact that they are becoming more pronounced. These are attributable to a number of difficulties.

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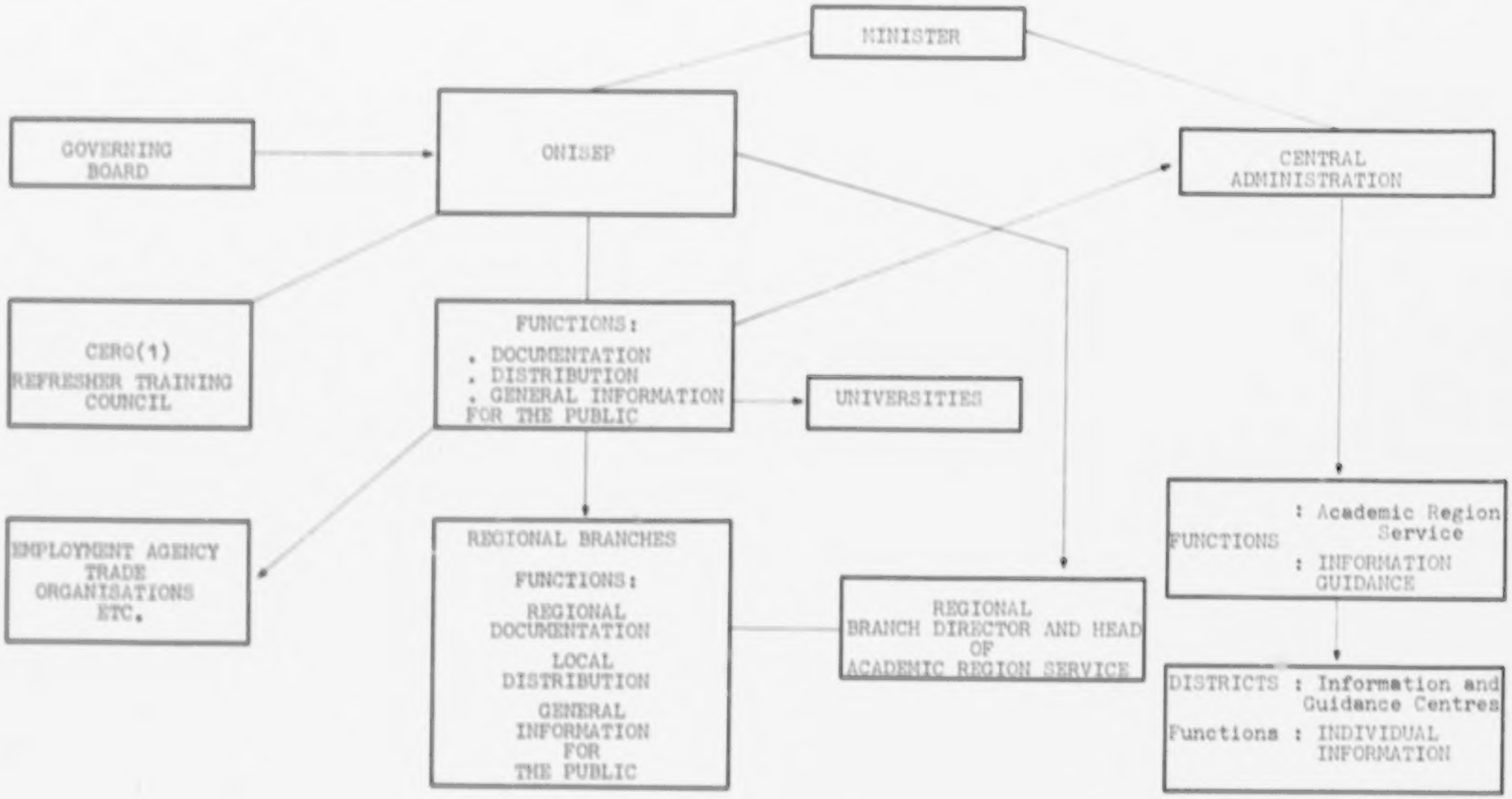
1) Cf. l'Education nationale by Jacques Fournier, 1967-68. Institut d'Etudes Politiques de Paris.

DIAGRAM [illegible]

NATIONAL INFORMATION OFFICE ON EDUCATION AND OCCUPATIONS (ONISEP)


MINISTER
GOVERNING BOARD
ONISEP
CENTRAL ADMINISTRATION
CERQ(1) REFRESHER TRAINING COUNCIL
FUNCTIONS:
. DOCUMENTATION
. DISTRIBUTION
. GENERAL INFORMATION FOR THE PUBLIC
UNIVERSITIES
FUNCTIONS : Academic Region Service
: INFORMATION GUIDANCE
EMPLOYMENT AGENCY TRADE ORGANISATIONS ETC.
REGIONAL BRANCHES
FUNCTIONS:
REGIONAL DOCUMENTATION
LOCAL DISTRIBUTION
GENERAL INFORMATION FOR THE PUBLIC
REGIONAL BRANCH DIRECTOR AND HEAD OF ACADEMIC REGION SERVICE
DISTRICTS : Information and Guidance Centres
Functions : INDIVIDUAL INFORMATION

Note : 1) CERQ : Qualification Study and Research Centre.

Source : Education, 16th April, 1970.

2) Problems

Problems arise from the co-existence of old and new structures brought about by the lag between the immediate implementation of the Order of 1959 concerning the prolongation of the compulsory schooling period (for political and economic reasons) and the setting up of new educational structures (CES's) which, under the Plan, is not scheduled for completion until 1972. The result is that during the transition period the first cycle is still, as in the past, being taught in different types of establishments, and fairly strong resistance is being encountered from the old structures; this has been particularly noticeable with regard to guidance, which cannot function satisfactorily in so heterogeneous a system. Resistance is encountered from parents who are ill-informed and tend to distrust any change in conditions of education, from local authorities who wish to maintain the existing establishments (lycées to be converted into CES's or CEG's to be abolished) and, lastly, from teachers who, confronted with a somewhat chaotic situation, do not receive the necessary encouragement to break with routine and launch out into a new experiment.

It might be thought that the delay observed in setting up the new structures and the present breakdown of enrolments in first-cycle sections stems from the failure of the terminal classes to disappear as rapidly as foreseen: such, however, is not the case, for observed enrolments in such classes are, in fact, declining more rapidly than foreseen, as shown in Table 89.

TABLE 89

Trend of enrolments in primary school terminal classes

(in thousands)

Year	Fifth Plan forecast	Observed enrolments	Percentage of forecast level
1964-65	634	634	100.0
1965-66	607	574	94.6
1966-67	562	513	91.3
1967-68(*)	492	451	91.7

Source: Service central des statistiques et de la conjoncture, Ministry of Education.

(*) Provisional data.

Since this discrepancy runs in the same direction as for the first cycle classes, it cannot be inferred that the trend has shifted from the terminal classes to the 6e. In fact, more children have left school at the age of 14 than had been expected. And although temporary vocational training sections were set up rapidly, they met with far less success in 1965-66 than expected: enrolments totalled only 30,000 out of the 100,000 pupils expected, owing to inadequate intake capacities resulting from the failure to establish proper facilities and to obtain co-operation from firms(1). In short, exemptions from compulsory schooling after the age of 14 which were forecast for the transition period were more numerous than had been expected.

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1) It is not impossible that the educational structure of the vocational training sections may be subsequently adopted in the final year of practical terminal classes.

This clearly shows the fundamental necessity for any planning mechanism to be consistent and integral, especially during periods of reform. Failing co-ordination among the elements which are or should be taken into consideration by planners (structure, forecast, teaching methods, curricula, investment, teachers) and among their trends, discontinuities will arise and jeopardise the entire system. Thus it is that the lag between the implementation of the law regarding the length of compulsory schooling and the establishment of educational structures, facilities, suitably retrained teachers, etc. (delays which were probably unavoidable, in view of the procedures governing decision-making) has prevented the law from being applied. In cases where it is applied (effective entry into the 6e), the breakdown of enrolments differs from the forecasts. This has short, medium and long-term repercussions on the entire education system (second cycle and higher education, e.g. the university institutes of technology); on the implementation of the entire plan, which is slowed down by delays begetting further delays (delays observed during the first cycle have inevitable repercussions on the second cycle, both in absolute figures and in their distribution since the type of course taken during the first cycle determines to a very considerable degree the type of course to which pupils may claim access in the second cycle); and on the entire economy, since the qualified manpower requirements at each level will not be met during this period.

B. The Breakdown of Enrolments in the Second Cycle of Secondary Education (public education)

For the period 1972 to 1975, the Fifth Plan had forecast the following percentage breakdown for pupils leaving the 3e:

pupils entering the labour market: 25 per cent;

pupils enrolling in short second cycle courses: 40 per cent;

pupils enrolling in long second cycle courses: 35 per cent.

Compared with the figures for 1964-65, this represents a marked increase in overall second cycle enrolments (75 per cent as against 50 per cent in 1964-65). With regard to the distribution between long and short cycles, the following developments were forecast by the Fifth Plan: enrolment in the lycées, the 2e should increase from 33.6 per cent in 1964-65 to 35 per cent, and enrolment in the short second cycle courses from 16 per cent (figure for third-year enrolments in the CET's over a three-year period) to 40 per cent. These objectives may seem disproportionate; in fact they involve some adjustments(1). The figures for 1964-65 take no account of repeats (8 per cent on average in the short second cycle and 14 per cent in the long second cycle), nor do they allow for the high drop-out rate during the long second cycle, where the enrolment rate (excluding repeats) falls from 33.3 per cent in 2e to 21.1 per cent in the terminal classes. Accordingly, the increased enrolment in the long second cycle envisaged by the Fifth Plan is bigger than expected and aims to take account of the fact that guidance at the end of the 3e would essentially reduce the drop-out rate. This being so, the overall enrolment rate for the 2e to the terminal classes was 23.2 per cent in 1964-65 for the long second cycle and 16.9 per cent for the short second cycle. Moreover, the enrolment rates scheduled by the Plan for 1972 to 1975 are indicative only of general trends and the objectives for 1972-73 would be 34.5 per cent for the short second cycle and 33.9 per cent for the long second cycle respectively.

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1) l'Education Nationale by Jacques Fournier, 1967-68. Institut d'Etudes Politiques.

The disparity is thus smaller than it would seem; nevertheless attention should be called to the trend of enrolments since 1964-65.

TABLE 90

Trend of enrolments in short second cycle public education

(in thousands)

YEAR	PLAN FORECASTS	OBSERVED ENROLMENTS	PERCENTAGE OF FORECAST
1964-65	91	90	98.9
1965-66	120	108	90.0
1966-67	154	128	83.1
1967-68(*)	196	154	78.6

Source: Service central des statistiques et de la conjoncture, Ministry of Education.

(*) Provisional figures.

The sizeable shortfall in public education is partly offset by the situation in the private sector, where the Plan's forecasts have been exceeded. This is logical, since pupils enter short second cycle courses at the end of the 3e and first cycle enrolments are smaller than forecast by the Plan.

TABLE 91

Trend of Enrolments in Long Second Cycle(*) Public Education (Thousands)

YEAR	PLAN FORECASTS	OBSERVED ENROLMENTS	PERCENTAGE OF FORECAST
1964-65	536	537	100.2
1965-66	580	567	97.8
1966-67	607	584	96.2
1967-68(**)	629	577	91.7

Source: Service central des statistiques et de la conjoncture, Ministry of Education.

(*) Excluding teacher training colleges (19 in 1967-68).

(**) Provisional figures.

Here again, the forecasts have not been fulfilled, but the shortfall is far smaller than for the short second cycle, where the trend of enrolments depends on intake capacities and on the creation of a whole series of new CET's, whereas the lycées naturally do not need such a vast equipment drive(1). In the light of these tables we may wonder whether the Plan's forecasts can be fulfilled, especially in regard to the short second cycle, where the pressure of demand is not so great and

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1) Moreover, the allocations provided for such establishments under the Fifth Plan have already been spent.

where there is a temporary lack of facilities. And even if they were fulfilled, the objectives of the Plan would cover only 75 per cent of the qualified manpower needed at level V on the basis of the training-advancement intergroup for the period 1972 to 1978. To this deficit must be added the share of higher-level deficits filled by internal promotions.

In attempting to assess the effectiveness of the guidance mechanism, bottlenecks such as intake capacity and the retraining which teachers must be given in order to apply the reform are taken into account. This clearly shows that the guidance mechanism is an integral part of a whole, and cannot easily be assessed *per se*. For one thing, it has been established too recently for any judgement to be valid, all the more so since the context within which it has gradually been set up has been inadequate. Furthermore, there is no reason to suppose that the mechanisms existing or envisaged are difinitive. There is indeed a danger that this "transition" period may last some time before planning and the various reforms bear fruit. It is for this reason that it seems increasingly necessary for any reform of an education system to be on a vast and comprehensive scale, concerned simultaneously with teachers, facilities, curricula, objectives (guidance) and school structures. These elements cannot contribute to progress if one lags behind another, as a single element out of phase releases or increases the forces of inertia in the system.

This being so, the guidance system, as currently implemented and envisaged, is exposed to two dangers:

i) remaining purely academic; it is difficult to say what sort of training guidance counsellors will have, and there is the danger that pupil records may continue to be of the traditional academic type, without sufficient emphasis on the notion of aptitude;

ii) seeking first and foremost to implement the objectives of the Plan; while the goal (a general increase in the training and qualifications of the entire school-age population) cannot be disputed, it is not so certain that the forecasts regarding patterns of enrolment constitute mandatory objectives in view of the poor quality of the forecasts of manpower requirements, which are based on insufficient data.

As will be seen in Book III, Part One, Chapter IV, there is a certain link in the Fifth Plan between manpower requirements and forecasts of the flow through the education system, but these objectives must be kept somewhat flexible owing to the uncertainty in the basic data. Recognising that the present situation calls for change and that the purpose of guidance is to facilitate such change, guidance must be based primarily on the detection of aptitudes by qualified personnel and on suitable educational structures. The development of any particular type of education is possible only if teaching measures are taken before and after the corresponding guidance plateau.

Chapter II

REFORM OF TEACHING METHODS

The first reform attempt coincided with the introduction of new types of education, namely, the transition cycles and practical terminal classes which were set up at the same time as the CES in 1963, and the university institutes of technology which were a major innovation in the 1966 reform of higher education.

In addition, the various changes made in primary and secondary education since 1968 have also brought about developments in teaching methods. The 1968 Guidelines Act on Higher Education had already introduced some new ideas into the style of education, and these changes, within the framework of the autonomy of education, will certainly be extended in the future.

I. NEW TYPES OF EDUCATION CREATED BY THE 1963 AND 1966 REFORMS AND THE DEVELOPMENT OF NEW TEACHING METHODS

A. Teaching Methods Specific to the Transition and Terminal Practical Classes

The description of the organisation of teaching in the first cycle of secondary education would be incomplete if the teaching methods used in the transition and terminal practical classes were not given the important place they deserve. They represent a reform in teaching and a measure of the scope and limits of the present organisation of the first cycle.

Such a drive for educational reform became necessary as a result of making secondary education available to the entire school population, which in turn meant the introduction of the first cycle. Access to secondary education presupposes the acquisition of a great deal of knowledge and means the beginning of intricate thought processes.

The results of a survey carried out by Mr. H. Pieron and Mr. M. Reuchlin (psychologists) in 300 intermediate primary classes (5th year of primary education) in 1955 endorses the use of special methods in the transition and practical terminal cycles.

In the intelligence development process there is an important turning point around 11 to 12 years of age which is the beginning of the transitional period from practical to theoretical work. At the age of 11, 50 per cent of the school population have passed this stage, 25 per cent of which have done so at least one year before. At 12 years of age, another 35 per cent have passed this stage and at 13, 17 per cent have not yet managed it(1).

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1) Findings of a survey carried out by Mr. H. Pieron and Mr. M. Reuchlin.

This transitional period from practical to theoretical work runs from 11 (pre-theoretical stage) to 15 (theoretical stage proper) and consequently covers all of first cycle secondary. During this period, according to the survey, children can be classified in the following way:

	11 year olds	14 year olds
theoretical stage	20 %	43 %
pre-theoretical stage	37 %	30 %
practical stage	43 %	27 %

Consequently, in the absence of special teaching methods a considerable number of children have to repeat a year to be fully prepared because of the high standards of requirements. Teachers in transition and practical terminal classes are therefore attempting to use suitably adapted methods(1).

1) *The transition cycle*

The purpose of this cycle is twofold:

- to bring pupils up to the level of the last year of the primary school (*cours moyen 2ème année*)
- to reveal abilities with a view to transfer to another section of first cycle schooling.

The course is intended for 12-year-old backward but not maladjusted children. The curriculum is related to that of the 6e so as to allow for possible transfer since the transition cycle forms an integral part of the first cycle. The teaching methods however are different and are adjusted to the age and interests of the pupils.

Class procedure and the organisation of the various subjects have already been described. Classes are kept small so that the under-educated can be weeded out and reoriented and so helped to overcome any educational maladjustment resulting from past failures.

One of the teacher's main tasks is to size up his pupils as accurately as possible. This he does in a variety of ways: through written and oral work and by judging their reactions to a wide range of tasks. Difficulties must be detected and strong points brought out in order to remove the effect of past educational disturbances.

- The basic skills are then relearned: reading, writing and arithmetic. Here understanding must replace rote and the teacher must watch for progress which may not necessarily be homogeneous. All the work is based on pupils' immediate interests and their capacity for spontaneous attention: for instance, a mathematical operation is first carried out by individual manipulation before being expressed in more abstract form.

- Instruction in the basic techniques should always be associated with interest centres which serve as support and motivation; the basic subjects can be put to work naturally through surveys and individual or collective research. These activities are based on the direct study of the environment (outings, visits, etc.), local history or the latest news. They help to spread out school work which is an

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1) At the time, the writers of the survey recommended, not without reason, that standard groups (*groupes de niveau*) should be set up by subject.

important factor in adjustment or maladjustment. These activities are best carried out on a team basis as this often helps to get the more timid children to participate while still not preventing a certain individualisation of task and the grouping of pupils in the light of their interests. This method is used in the teaching of history and geography, emphasis being laid more on stimulating thought than accumulating knowledge. Great importance is also attached to art education in all its forms as this is an excellent medium of expression.

- Experimental science also has its place here and should be based on the 6e and 5e syllabus of the other sections.

For physical education, the children are grouped with those from other sections according to age and size. This is an important factor for the integration of the whole first cycle.

In short, the teacher organises the work in a balanced and varied way, while still ensuring a certain unity by regrouping the evocative activities around a number of central themes of interest to the pupils.

A balance is also sought between collective education, individual work and group activities. Each pupil should belong to at least two groups. The groups should be of roughly equal strength in the basic subjects but preferably at different levels for the evocative activities so as to bring out differences of approach.

The main thing is to get the pupils to take an active and effective part in organising and carrying out the work.

A library and a wide range of reference material is essential: the layout of the classroom should be flexible and the furniture mobile, and simple printing equipment should be provided. The creation of a co-operative can help to strengthen class solidarity, develop a team spirit, a sense of social responsibility, etc.

At the end of the two-year cycle pupils are advised to follow a classical or modern course, to go into a 4e adaptation class, or to take a terminal practical course.

2) The terminal practical course

This is intended for pupils with little bent for academic education and those in the terminal classes who do not go on to adaptation classes.

The introduction of the terminal practical course under the 1959 Education Act is a consequence of the raising of the school leaving age to 16 at the beginning of the school year 1967-68. The terminal practical course is not an end in itself but simply a means of dealing with the practical consequences of the educational reform. It follows the transition classes and lasts for two years. Although it forms an integral part of the first cycle, it would be pointless to try to compare it with the other sections of the cycle; the curricula and teaching methods are completely different. Thus, the terminal practical course provides a preparation for life as well as a comprehensive prevocational training giving youngsters of 15 at least the beginnings of a training which will help them quickly to find a useful place in the working world. These classes have to take 20 to 30 per cent(1) of the children in compulsory schooling. The percentage naturally varies according to region and social

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1) The average rate adopted for the Fifth Plan is 25 per cent.

environment. Roughly a quarter of a generation of children take this type of course and complete their compulsory schooling without any qualification. Some, however, do go on to a CET or take a one-year vocational training course.

The youngster who takes the terminal practical course has usually had a difficult passage through school and has mostly failed. His problem at terminal practical level is all the more acute as he has less chance of making a go of it. He and his like form a mass of psychologically and sociologically disturbed youngsters who need an individual teaching approach more strongly marked even than that given in the transition classes.

The problem is to give these youngsters, who if not actually hostile are not very interested in traditional school work, a basic general education and a more open-minded and adaptable attitude to life. Hence the importance attached to class atmosphere and the need to de-institutionalise school work even more than for the transition classes. Responsibility for discipline is collective, real and effective (managing the class budget, for example). The pupils also arrange their classroom to their liking, carry out jointly prepared projects and determine the division between working time and recreation. The same principles are applied to basic subjects and training in expression as in the transition classes (practical approach, motivation of activities, etc.).

The distinguishing feature of the course is the prevocational training it provides for those who go straight into secondary education or those who go on to an accelerated vocational training centre. The main lines of this prevocational training are as indicated in the Instructions of 5th April, 1966:

- Information on trades: contacts, visits, talks with managers, short periods in firms.

- Acquisition of certain specific skills applicable to workbench problems: attentiveness, ability to understand and apply instructions and to pass on information, teamwork, care in the performance of work.

- Introduction to the elementary responsibilities of working life: rapid technological training, study of simple devices aimed at awakening interest and stimulating thought.

In short, the course should aim at encouraging any bent the pupil may have for a particular occupation, while helping him to acquire the increasingly varied skills needed in the world of today. Thus, the guidance role of the terminal classes is by no means negligible. They have to prepare pupils for their choice of a trade in the light of the aptitudes revealed and local possibilities.

This experiment was very quickly made general and primary school teachers received special training for this purpose.

Several subjects of the core curriculum in first cycle secondary are dealt with in groups of half a class.

Other more experimental attempts have been made within the first cycle such as the CES at Marly where the teaching method is based on the full and integrated use of various audio-visual aids.

B. University Institutes of Technology

Ex cathedra lectures have been discarded. The main body of education is taken by groups of 24 or 12 or even 6 students for practical work. The IUT's were designed to the last detail in human terms: each department each year is limited to 150 students i.e. 300 for two years(1). End-of-year examinations were discarded as soon as IUT's were introduced and were replaced by continuous knowledge assessment, particularly for the transition from the first to the second year; the pass rate in the final examination was 94 per cent in 1968 (close to that in the Grandes Ecoles). The faculties even before 1966 had, in addition to lectures, introduced practical work which was strictly compulsory. This innovation was not, however, accompanied by any reform of working methods.

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Thus, before 1968, at the time of structural reforms, some new but very small sections of education and to some extent the Grandes Ecoles had radically changed their teaching methods. This spread to education as a whole (less sharply defined) as of 1968.

II. CONSEQUENCES OF THE 1968 REFORMS

As a result of the reforms in the latter half of 1968, these experimental and non-experimental new institutions replaced or reduced lectures in favour of active individual or collective work in small groups - methods that nursery schools and the Grandes Ecoles had already developed over a long period.

Observation of the pupils' progress involves much more attention being paid to each one's standard and pace of work than before. A Circular of 18th September, 1969, indicates that in primary schools, for example, the pupils may to some extent be allowed to assimilate the curricula at their own pace. The teachers are in fact given a free hand to make innovations in this field, while in secondary education they are allowed some choice among the subjects included in the curriculum. These recommendations, combined with more active teaching methods and a less encyclopaedic syllabus, had done something to alter the scope and atmosphere of the tests applied. The candidate's school record assumes more importance as compensation for any momentary lapses, especially in the baccalauréat examination. In higher university education, new methods of testing have been tried out in connection with the new teaching experiments, especially in the form of regular tests to replace or supplement the annual examinations. Other significant developments are the less exacting requirements for a state doctoral thesis, the possibility of presenting either a series of scientific works or a collective thesis. The development of participation procedures should also hasten the demise of the anonymous student-teacher relationships hitherto prevailing.

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1) The present lack of candidates means that there are usually far fewer students a year than these figures indicate.

Chapter III

PARTICIPATION

From 1968 onwards, fairly radical reforms were introduced into the functioning and management of secondary schools and higher education establishments.

Most headway was made in higher education as a result of the Guidelines Act. This Act takes a stand against over-centralised management of education. This explains why the 1963 reforms had no effect on secondary education: the reform was carried out within the framework of rigid centralisation. (For details, see Annex XV.)

The Guidelines Act on Higher Education therefore began the process that, in turn, involved secondary education.

I. PRIMARY AND SECONDARY EDUCATION

Consideration of the situation before and after 1968 will reveal the progress made and drive home the difficulties of introducing such vastly different structures.

A. School Life and Administration (pre-May 1968)

School life is still governed (mostly) by old regulations reflecting the centralised overall administration of national education, though it is at precisely this level that the junction between the administrative and educational structures needs to be effected. At primary and secondary levels, each school is run by a headmaster (or mistress), assisted in theory by an administrative board (and a technical board in the case of vocational schools). The boards have, however, only limited powers, although their membership includes a number of responsible people in many different fields (especially in the case of vocational and technical education). The pupils are entirely unrepresented on the boards, and links with the outside world, especially the working world, are very tenuous (except for technical education).

Primary schools(1)

Two institutions take a hand in the management of primary schools: the teachers' councils(for exclusively internal matters), and the cantonal delegations, which acts as a link between the inspector of primary education and the local community.

The teachers' councils,set up in each school under the Circular of 15th January, 1908, deal exclusively with teaching matters (there is no representation of parents or the administration), under the direct authority of the headmaster (or mistress), whose role is of first importance.

Each council meets once every quarter, and holds four or five other meetings in the course of the year at which it deals with such matters as internal regulations and timetables, the allocation of teachers and pupils, discipline, the introduction and revision of curricula, and the choice of textbooks.

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1) Including nursery schools and nursery classes attached to primary schools.

The cantonal delegates (Circular of 16th May, 1922), appointed for three years by the departmental council for primary education, are eligible for a further term or removable(1). Their powers cover hygiene and sanitation in schools. They express an opinion on the construction or extension of school buildings and especially on matters affecting school attendance. Every municipal education committee must include at least one cantonal delegate, who passes on to the inspector any information of interest.

Continuation courses and the CEG's

Whether autonomous or not, these are administered by a principal, assisted by a sponsoring committee(2) established under the Decree of 18th January, 1887, which meets twice a year. This committee is responsible for the practical running of the school and the awarding of scholarships. It takes decisions on specialised courses to be introduced in response to local requirements, and arranges educational exchanges with foreign countries.

The organisation and running of continuation courses which include specialised sections are supervised by a standing commission of the sponsoring committee.

The continuation courses were transformed into Collèges d'enseignement général in 1960. It was clearly specified that the change of name would lead to no change in status or administration. Consequently, the administrative structures set up for the continuation courses were taken over by the CEG's.

CES

Administratively speaking, these are autonomous nationalised establishments. A Government Order of 1st August, 1962, specifies that, pending the institution of a common official status for the heads of such establishments, Collèges d'enseignement secondaire should be directed by the principal of a lycée, assisted by a governing board composed of ex-officio, elected(3) or co-opted members as in the case of the school councils. The board has similar powers to the boards of management of the classical and modern lycées, and the bureaux of the former classical and modern secondary schools.

CET

Collèges d'enseignement technique are administered by a principal, assisted by an administrative council(4) established by Decree of 21st April, 1955, consisting

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1) Meetings attended by the Mayor are held once a month and meetings attended by the inspector of primary education once a quarter in the capital town of the canton.

2) The sponsoring committee of a continuation course consists of: the academic rector, the academic inspector, the inspector of primary education, the principal of the "collège" or school, the mayor, the presidents of local chambers of commerce and agriculture, one municipal counsellor, one member of the staff, representatives of the regional institutes, a doctor of medicine and two representatives of the parents' associations, elected for three years.

3) The elected members, representing the school staff, come from four different staff categories.

4) The membership of the administrative council of a CET is as follows: the academic inspector, the inspector of technical education, the mayor, the school principal, one parents' representative nominated by the rector on the proposal of the most representative parents' association, two elected members of the teaching staff, 14 representatives of employers and employees in the various industries concerned, including five on each side representing the trades unions and employers' organisations, two advisers on technical education (one employee and one employer), one representative of the chambers of commerce and trade guilds, and the bursar of the school.

of *ex-officio*, elected or co-opted members, for four-year terms of office. The council meets twice a year, and has a standing commission of nine (the mayor, the principal, one teacher, three local employees and three local employers, and the bursar), which establishes its own rules of procedure and decides how often to meet.

The council takes a decision on the draft budget for the coming year, winds up the budget for the previous year, and gives directives for the administration of school property. It watches over the moral tone and material welfare of the schools, makes recommendations as to the intake and allocation of pupils, timetables and teaching problems. Between meetings of the council, or if urgent action is required, the standing commission meets and reports to the following meeting of the council.

Classical and modern lycées

The position of the classical and modern lycées is more complicated. Under the Government Order of 11th June, 1803, they are run by a headmaster (or mistress) and a vice-principal, assisted by a deputy and a bursar. The headmaster directs and administers the lycée and is responsible for its efficient management, handles the administrative correspondance with the rector via the academic inspector, chairs staff meetings and sends end-of-term reports to parents. The vice-principal is responsible, under the headmaster's authority, for the discipline, moral welfare and standard of work in the lycée; the supervisors are subordinate to him. The deputy to the vice-principal helps to maintain order and discipline, under the headmaster's authority.

These administrative organs are supplemented by a class council, four teaching councils, and one administrative council with a standing section.

The class councils and teaching councils were set up under the Order of 24th July, 1939. The class council meets four times a year (in October and at the end of every term). It consists of the headmaster, the vice-principal, and the whole teaching staff. It deals with such matters as individual school records, co-ordination of lessons, class work and the award of scholarships.

There are four teaching councils (for humanities, science, history and geography, modern languages) which bring together twice a year all teachers of the same subjects, under the chairmanship of the headmaster, assisted by the vice-principal. They deal with such matters as the choice of textbooks and teaching equipment and the co-ordination of courses.

Finally, the Decree of 2nd May, 1945, established in each classical or modern lycée for boys or girls an administrative council (formerly known as the "bureau" in the old classical and modern "collèges"), with a standing section. In the lycée, the administrative council is presided over by the Recteur d'Académie, and consists of *ex-officio* members, elected members representing the teaching and supervisory staff, and members co-opted for their ability or the interest they take in the efficient running of the lycée. The latter include one representative of the old boys' or girls' association, and one member representing the parents' association(1).

The council supervises the activities of the lycée, from the material, moral and academic standpoints. The council takes decisions concerning the administration of property, the purchase of furniture, and the improvement of internal services: its decisions are put into effect, if not amended or annulled by the rector within 20 days. The council also makes recommendations for the draft budget, and for dealing with any surplus or deficit after the closing of the accounts. Lastly it makes recommendations concerning the food, hygiene, administrative staff (creation or abolition of jobs, advancement, establishment), legal proceedings to be instituted and the administration of immovable property. The council also arranges for the placing of scholarship-holders.

The council meets at least twice a year, its agenda being drawn up by the rector. It may also be convened by the inspectors-general, who are then entitled to attend the meeting.

The standing section of the administrative council acts on its behalf between meetings. It consists of the headmaster (chairman), vice-principal, superintendent, deputy vice-principal, representatives of the staff and auxiliary personnel. Whenever the situation demands, the standing section may call upon representatives of the pupils to attend, for consultation only.

The standing section is convened by the headmaster in two different capacities: as a council on internal administration and a council on discipline.

The council on internal administration, with the above membership, meets when convened by the headmaster, and in any event at the end of each term; the elected members of the staff assembly also attend(2).

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1) The ex-officio members are: the rector, prefect or sub-prefect, academy inspector, mayor, mayor of the commune in which any offshoot of the lycée is located, headmaster, vice-principal, heads of the various educational departments (e.g. technical section), deputy vice-principal, superintendent, head of the departmental service for youth and sports, regional inspector of school and university hygiene, inspector of technical education. The representatives of the teaching and supervisory staff, and other personnel, are elected for one year; their number varies with the size of the school.

Apart from the co-opted members mentioned above, six are nominated by the Ministry for a four-year term of office (on the rector's proposal, after consultation with the prefect, the inspecteur d'académie and the headmaster) as qualified representatives of the commercial, industrial and agricultural communities, chambers of commerce, industry and agriculture, trade unions and management organisations; two advisers on technical education may also be chosen.

2) The staff assembly (see Circular of 21st September, 1944) includes all teaching staff, supply teachers and assistants and shares responsibility with the headmaster for dealing with teaching problems and improvements in school life.

The council expresses its opinion on the education system, the curricula, school life and ethical and civic education, the upkeep of the school, supervised activities and social services. These are all internal matters which concern only the teaching staff; representatives of the parents' association do not, therefore, take part in the proceedings of the standing section in its capacity as council for internal administration.

The standing section sits as a disciplinary council when individual cases come up for decision. There may be some representation of pupils from the higher courses and preparatory classes, and any individual may be called before the council if the headmaster thinks fit. In addition, the Circular of 17th November, 1950, stipulates that a representative of the parents' association must be convened when the standing section is sitting as a disciplinary council. The Circular of 26th February, 1951, provides that the parents' representative, chosen by the rector on the proposal of the headmaster(1), should be present when the pupil is questioned and may take part in the discussion, but must withdraw before the Council deliberates on the matter.

One last point should be noted in connection with the administration of the classical and modern lycées: an Order of 7th November, 1950, provides for "conseil de perfectionnement" in all schools where the technical sections represent at least 30 per cent of the total numbers (see below).

Technical lycées

Under the Decrees of 13th February, 1903, and 24th December, 1921, a technical lycée is administered by a principal, assisted by a governing board, a further training board and a school board.

The membership of the governing board is as follows: one-third are ex-officio members (the prefect, rector, mayor, chief inspector of technical education, one general adviser, the principal, the bursar and two delegates from the most representative professional associations for technical teaching staff); two-thirds are members nominated by the Minister for a three-year term of office, half of them being selected from the employers' organisations and half from the most representative trades unions. The board is chaired by the prefect, and meets twice a year. It examines the draft budget, and enjoys the same powers as the administrative boards of the classical and modern lycées.

The "conseil de perfectionnement" presided over by the Recteur d'Académie is constituted in the same way as the sponsoring committees of continuation courses, and exercises exactly the same powers as the administrative boards of the technical schools. One third of the total are ex-officio members (academic inspectors, two general advisers, one inspector of technical education, the principal, his chief assistant, three staff representatives elected for four years from different schools providing general education, industrial training and commercial training, from among the representatives of the staff of technical schools(2), one representative of former pupils, the bursar and the director of studies), and two-thirds are members nominated for four years by the Minister, comprising an equal number of delegates from the most representative employers' and workers' organisations in the trades taught, and two members of the

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1) The headmaster submits a list of four names supplied by the association itself (Circular of 23rd June, 1952).

2) In the case of an annexed CET.

technical education board, selected in the same way. The board meets at least once a year, in June. It is responsible for teaching and disciplinary matters and draws up timetables and detailed study programmes for the different special fields. It expresses opinions on the draft budget, the number and deployment of auxiliary staff, finds places for scholarship-holders, and proposes any needed improvements in practical courses; the board communicates its proceedings to the prefect.

The school council is equivalent to the assembly of teachers in the classical and modern lycées; it brings together all teaching staff, and meets at least once a term. It draws up the internal regulations of the school for submission to the administrative board and to the Minister for approval. It determines the pupils' performance ratings for each term and helps to draw up the reports sent to the pupils' families.

The Guidelines Act on Higher Education provided for the creation of structures for participation in universities. By extension, it affected secondary education, particularly in the lycées where machinery and administration were completely changed to include student and parent participation.

As an experiment, on the recommendation of the Committee for teaching reform, School Boards will be established made up of all those concerned in primary education. Meanwhile, new structures have been introduced for both first and second cycles of secondary education.

B. School Life and Participation in Secondary Establishments after 1968

All teaching staff will be entitled to vote and be eligible for election, including assistants acting as half-time teachers. Election is on a proportional representation basis by list, excluding the possibility of splitting the vote. Two electoral colleges are formed in each CES: one for teachers giving CES-type education and another for those giving lycée teaching. Delegates of administrative, invigilatory and service staff are elected by single-name ballot. The parents' representatives are elected on a proportional representation basis by complete list.

1) Governing Board (Conseil d'administration)

The board has a four-part composition:

- administration representatives;
- staff-elected members;
- user representatives (children and parents);
- outside persons concerned in the running of the establishment.

The number of members is in proportion to the total pupil strength of the establishment.

2) The role of the board is being broadened. It has three areas of responsibility.

- exercise of executive measures relative to internal regulations, pupil recruitment, safety measures, physical improvements, management of assets and utilisation (up to 10 per cent) of the establishment's reserve funds;
- formulation of proposals concerning any alterations to the budget, the establishment's equipment, the introduction or abolition of posts, and school transport;

- advising on modifications to be made to the physical conditions of school life or to teaching arrangements, on any judicial action to be taken, and on all questions referred to it by the school management or the standing committee.

3) The Standing Committee

The standing committee of the governing board represents the latter between meetings. Members are elected, corresponding to the different electoral colleges, by those on the governing board.

4) Disciplinary Board

There will also be a disciplinary board having a similar membership to the boards mentioned above: welfare worker, guidance counsellor, two teachers from the pupil's division, two student delegates from this division, the person responsible for the pupil's being called before the board, a defender selected by the pupil, and the standing committee. This gives a considerably broader basis than for the earlier board.

The disciplinary board in this form has a dual responsibility: it will penalise serious misdemeanours, but primarily its task will be to bring home to pupils their responsibility to themselves and to the school community. The penalties are: admonishment, temporary suspension, permanent dismissal (the latter after consultation with the rector). These penalties are entered in the school dossier but not in the livret.

5) Finally, the division boards will replace class boards; their make-up will be extended to include two parents' representatives (whose children are in other divisions), two delegates of the pupils in the division, a doctor of the school health services or the welfare worker, and a guidance counsellor. The participation of pupils' parents is limited to a plenary information meeting - they will not take part in the discussion (Decree of 9th November, 1968).

Because of many attendant difficulties, the 1968 Decree was replaced by that of 17th September, 1969. From then on, the governing board of each establishment was responsible for deciding the ways and means of parent/student participation on the division board, particularly when individual cases were being considered. Roughly a quarter of the boards had decided to adopt this procedure.

In April 1969, a detailed circular was sent out to heads of establishments on the subject of discipline in lycées. The establishment head is to be responsible for order and discipline in the establishment. He will take every measure necessary to implement laws and regulations, including the internal regulations of the establishment. All serious infringements will be brought before the board for consideration. In the meantime a pupil can, if necessary, be sent home.

Social and educational clubs

The purpose of these clubs is essentially educational. They are based on the following principles:

- the initiative of organisation and activity will rest with the pupils, the school management giving technical advice only;
- the various activities of these clubs will not be confined to the organisation of leisure; they should be aimed at modifying teacher-pupil relations by strengthening the spirit of co-operation at class

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and establishment levels. Nevertheless, the body directing the club should include at least three adults including the head of the establishment. This body will decide on its own statutes. The activities of a club may extend to all possible subjects of information, provided no single one preponderate, that the dialogue be free and open to all and that all indoctrination or forms of pressure be excluded.

*

* *

The head of the establishment naturally remains at the head of the executive. Increased user participation in the various boards is designed to distribute management responsibilities better. In the special case of relations between the governing board and the head of the establishment, it is laid down that the latter has the right of veto over the board in the event of serious disagreement.

In toto, these proposals on the management of secondary establishments should allow the desire for participation expressed by those concerned to be met, permit pilot experiments to be carried out in the framework of a greater degree of autonomy and ensure that establishments are more closely involved in social change.

II. HIGHER EDUCATION

A. Universities

1) University life and administration before 1968

At the higher education level, there is a great preponderance of doctors in the faculty assemblies and few assistants or assistant lecturers despite the fact that, owing to the great increase in student numbers and the reforms introduced, many more have been recruited in the last few years. This makes the present university administration look hopelessly out-of-date. As for the students, apart from the Act of 23rd September, 1948, putting the management of social security arrangements in the hands of the students themselves, practically none of the few reforms planned have been applied. The Decree of 16th May, 1945, provided for the election of five students per faculty to take part, at the rector's invitation, in the deliberations of the university council on disciplinary matters affecting students, university life and the organisation of courses. This Decree was half-heartedly applied at Montpellier and Toulouse. In 1958, a proposal was put forward to grant students the right to speak and vote in the university council, except on matters affecting the staff.

The faculties are institutions with a separate existence of their own, legal personality and independent management.

The faculties

The faculties are administered by a deliberative body and an executive authority, assisted at academy level by the university council (see above). There are two deliberative organs: the faculty council and the faculty assembly.

- The faculty council includes professors appointed to chairs and emeritus professors. It meets when convened by the dean. The council establishes its own rules of procedure, votes on the budget, settles legal disputes, announces vacant chairs and puts candidates forward, and records the regularity of the students' attendance.

- The faculty assembly consists of the professors and lecturers, assistant lecturers holding state doctorates, and *agrégés* giving courses or directing practical work. In the faculties of humanities and science, the *chargé du cours* and *maître de conférence* (lecturers) who are not doctors can be called in only for consultation; they have deliberative rights. The Decree of 30th October, 1963, specifies that the assembly of the faculties of law, humanities and science must include a consultant representing the assistant lecturers in each special subject, elected by their colleagues of the same grade, with two representatives of the assistant lecturers and directors of practical work in the faculties of humanities and science. The assembly deliberates on the study programmes and courses. It also elects the dean; only professors and lecturers holding a doctorate are entitled to vote.

The executive power is wielded by the dean, appointed for three years by the Minister from among the titular professors, from two lists drawn up by the faculty assembly and the university council. He convenes and presides over the faculty assembly and council, and sees that their decisions are carried out. He accepts grants and legacies, commits budget expenditures, administers the faculty and keeps order within it. He organises the examinations, and ensures that courses are given according to plan. He appoints the administrative personnel and serves notice of dismissal.

The dean is assisted by two advisers. The first is appointed by the Minister from two faculty delegates elected to the university council (Decree of 18th February, 1961). He stands in for the dean in case of absence or death. The second adviser is appointed by the Minister from among the titular professors, on a proposal from the dean put forward after consulting the faculty assembly.

Note: As regards the faculties of medicine, the structural reforms by their very nature implied an administrative reform; this is made clear in Annex X.

2) The principles of participation: student and teacher representation

a) General data contained in the Act of 12th November, 1968

Up to the above date students were not represented on the universities' various governing boards. A 1945 government Decree had merely provided for the election of five students per faculty to take part in discussions on disciplinary matters involving students. If he thought it desirable the rector could convene them to settle problems more especially related to student life and studies. Also in bodies concerned with university philanthropy (aid to students), students made up one-third of the numbers and students themselves managed student social security.

The Guidelines Act lays down that unit and university boards will be made up of representatives of the teaching staff, research-workers, non-teaching staff, outside persons (not compulsory for units) and students. Student representatives will not number more than representatives of professors, senior lecturers, assistant lecturers and equivalent rank. The teaching staff and student representatives on the university board, elected by secret ballot and in separate colleges, similarly appoint teaching staff and student representatives to the regional board and to the National Higher Education and Research Council.

Teaching staff and students will share about two-thirds of the representation, the other third being held by outside persons. Post-graduate students already engaged in research work can both vote and be elected to take part in the management of research centres and laboratories.

Student delegates will be elected by separate electoral colleges, by study year or cycle. The percentage of first-year students will not exceed one fifth of the total student representation, the vote being limited to students who have satisfied normal enrolment requirements the preceding year. These representatives will be elected by one-stage list ballot on a proportional representation basis. The quorum is 60 per cent of registered students. If the number of votes cast is under 60 per cent of registered students, the number of seats allocated will be determined in the proportion borne by the number of voters in relation to that figure.

All in all it appears that students will account for nearly half the seats to be filled in education and research unit boards and about one-third in the other boards placed over these basic units. Thus, their role will be important in the management and structural development of the various establishments, whereas previously students enjoyed no real representation at all.

What is more, Section 27 of the Guidelines Act grants students "freedom of information as regards political, economic and social problems, under conditions non-prejudicial to education and research activities, and which do not involve any monopoly or propaganda or any disturbance of law and order". For this freedom to be practised within the university area it is laid down that "the premises made available to student for the purpose will be separate from premises set aside for education and research and away from hospital areas".

b) First implementation: elections in education and research units and the setting up of the boards

University election procedure will be as follows: first the delegates to the education and research unit (UER) boards will be elected. Then subsequently these boards will themselves appoint university board delegates.

In order to conclude the making up of the provisional list of education and research units (mainly for electoral purposes), rectors were asked to consult locally with the various faculties and draw up a list per academic region for submission to the Minister. Few changes were made by the Minister to the list of UER's which he published.

With its stress on the need for links between education and research, the Act provides for only one organisation, the UER, in place of the faculties. But in some cases the links are purely abstract, as in the first and second cycles.

Finally, therefore, there were two different types of unit:

- UER's largely devoted to teaching (particularly in science);
- research-oriented units engaged purely on research and educational work in direct preparation for research (post-graduate or (*troisième cycle*).

Also a system of exemptions, set up for institutes attached to the faculties, has been widely used by institutes for political studies and university institutes of technology wishing to keep their autonomy. They include the "reserved cases" represented by the ENSI's which have close ties with the science faculties (mainly at research level).

In this form these units have an essentially provisional character with the task of drafting the UER statutes. When worked out, these statutes may lead to a review of this preliminary breakdown and to some grouping together.

Electoral procedure under the Guidelines Act

The teaching staff and students, in the education and research units, provisionally listed by the Minister of Education as the basic university units, have to elect their representatives whose task will be to work out UER statutes and appoint university delegates to the provisional university constituent assembly. Six electoral colleges take part in these elections:

- the college of teaching staff performing the functions of professor or senior lecturer in each unit (established and associate professors and senior lecturers, medical agrégés and certain junior lecturers);
- the college of teaching staff performing the functions of assistant lecturers (assistant lecturers, work supervisors, junior lecturers and assistants holding agrégation or state third cycle or engineering doctorates);
- the college of the remaining teaching staff;
- the college of research-workers divided into three sections;
  - research directors and heads;
  - project leaders and assistants;
  - other research workers.

  Where the number of research-workers is too low they will form a single college.
- the college of students with a separate college for freshmen, the others being grouped by study cycle. The members of these colleges must have satisfied normal enrolment conditions for the preceding year.
- the single college of administrative and technical staff.

Consultation suggests that the total number of delegates should not exceed 100.

A one-stage list ballot will be used for the students' college. For the others a two-stage multi-nominal majority ballot will be used.

The number of representatives of professor, senior lecturer and assistant lecturer rank (excluding the assistants' college) will be at least equal to that of the students.

Professors and senior lecturers will, however, have 60 per cent of the total number of teaching staff seats.

These are the main lines of, and first steps to implement, the Guidelines Act on Higher Education which are designed to lay down certain limits and guarantees considered essential for the reshaping of an education system based on establishment autonomy and the participation of the main parties concerned.

Following the elections, new universities have been created bringing together a certain number of education and research units, for which examples were cited in Part One which was devoted to structures.

B. Grandes Ecoles

Although they do not fall within the scope of the Act, the Grandes Ecoles have been affected by the reform process and several of them have introduced a system of student representation and a reform of student status.

1) Colleges administered by the Ministry of Education

a) Preparatory classes for the Grandes Ecoles

A more liberal régime has been introduced in regard to preparatory classes for the Grandes Ecoles: this also applies to students taking teacher or vocational training and those working for the higher technician's certificate (in the technical lycées in general):

- the students concerned have the right of association: once formed at establishment level, these associations can join together at academic region or national level;
- they have student status and will be known as "lycéens-étudiants";
- they will take part in the various establishment boards where they will have the right to vote. They will form a separate college for the purpose of electing representatives to such boards;
- they will take part in the formulation of the establishment's internal regulations.

b) Other colleges administered by the Ministry of Education

The higher teacher training colleges (Ecoles normales supérieures - at Ulm, Sèvres, Saint-Cloud and Fontenay-aux-Roses) have in turn organised a system of student representation on their governing board, as have others such as the College of Modern Oriental Languages which is attached to one of the new Paris universities or institutes of political studies.

2) Colleges not administered by the Ministry of Education

Students in Mining Colleges have gained representation (6 seats out of 36) on the college's refresher training board.

The Polytechnique has also organised student representation on its refresher training board; and some form of representation has been arranged for students in the College of Aeronautics.

Students have obtained 4 seats out of 17 on the refresher training board of the College of Public Works, and they will have 4 of the 10 seats on the governing board. Student representatives are elected by methods they themselves draw up.

It is well to remember that co-management (teacher/student management), which exists in the pure state in UER's in the new universities, is not possible in these independent colleges insofar as roughly one-third of the seats on their governing boards are offered to people in the profession or any other qualified person. This latter representation comes closer to the board structure in the new universities where the presence of leading independent members is compulsory.

Conclusion: administrative reform of the Ministry of Education

The introduction of participation machinery hitherto unknown in the various bodies of the Ministry of Education (see Annex XV), together with many reforms at various levels in the education system, inevitably meant changes in the administrative hierachy responsible. It became clear that a real participation policy was inseparable from efficient management. Central administration, in order to promote this idea, had to be reformed in order to de-centralise some decisions by leaving them for local administration.

The reform of central administration, carried out with effect from March 1970, consisted mainly of making a distinction between ends and means and how to make the ends suit the means. Until that time, the directorates of the ministries responsible for primary and secondary education, and separately for higher education, drew up their objectives and managed the establishments. The latter task was much more important than the former, without any kind of consistency, however, because the directorates did not really control their various operational resources (buildings, administrative bodies, etc.). Therefore the following were created:

a) Objectives directorates, aiming to:

- design closely integrated operations and have them studied by the forecasting directorate, the resources directorate - which will be dealt with below - and, if necessary, by the study units directly attached to them;
- proceed to evaluate the means necessary to implement them;
- obtain approval for the inclusion of these operations in the programme and consequently in the budget;
- issue general instructions for the directorates necessary for the proper implementation of these operations.

b) Resources directorates responsible for managing a uniform category of resources, i.e. those included in a group of budgetary allocations.

The resources directors are responsible for employing the means available to the Minister, whom they ask to approve the general utilisation policy; they ensure that the management activities laid down in the general instructions issued by delegate directors are in fact carried out.

c) Forecasting directorate, the responsibilities of which are given in detail at the end of Book III dealing with planning machinery.

Some services have been set up in order to keep track of the necessary changes in the education system and the promotion of certain activities: continuing training counsellor and Chargés de Mission for data processing, educational research and international relations. In addition, within the participation framework, a new public relations and information service will be called on to play a basic role since it will have to explain, in the face of public and university opinion, the problems arising in the public service of the Ministry of Education and make known the methods and types of action used to resolve them. Finally, still regarding central administration, a directors conference assisted by a standing secretariat has been set up: it is a sort of steering committee responsible for supplementing the necessary contacts and co-ordination among the objectives, forecasting and resources directors, under the authority of the Minister.

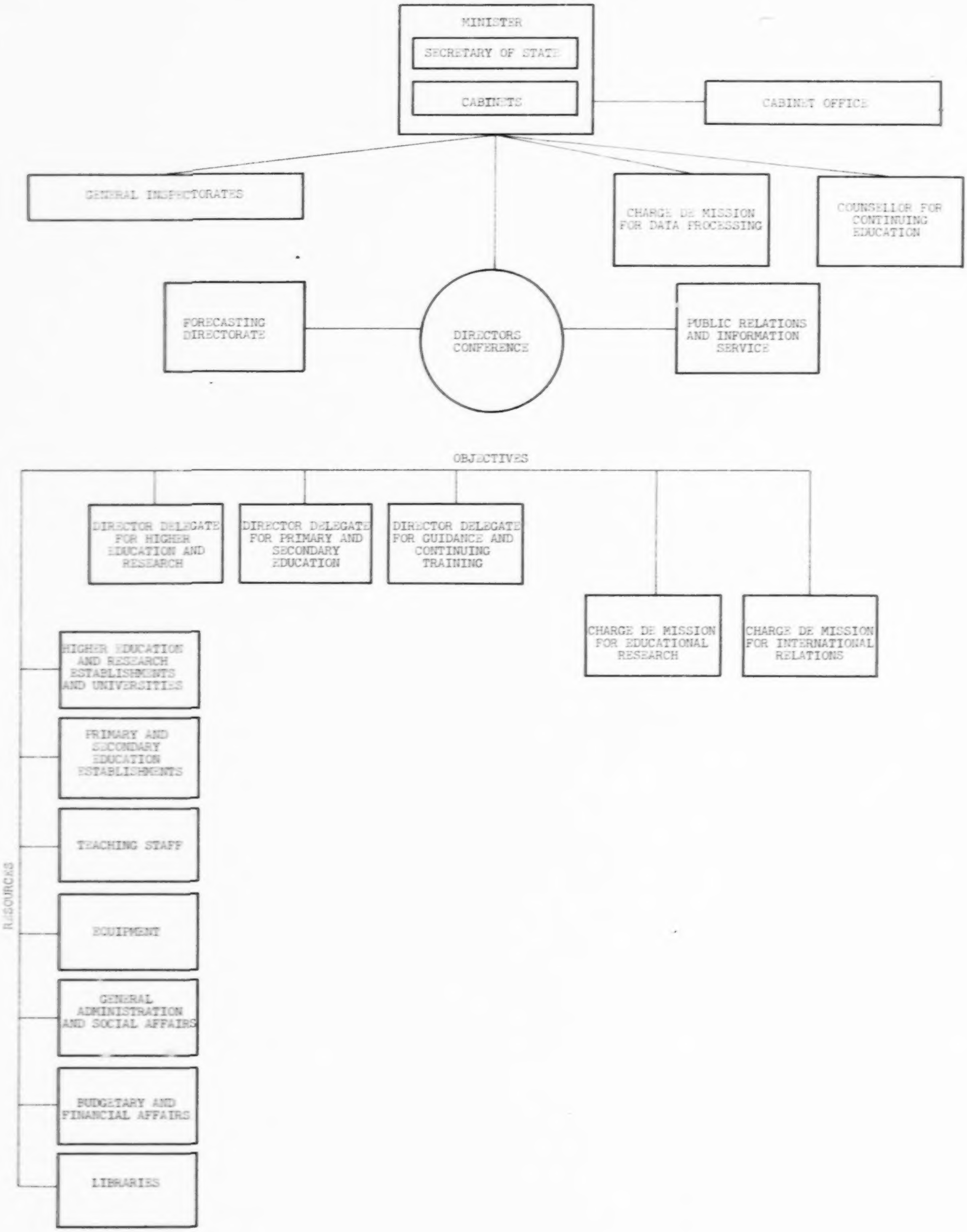
Diagram X sums up this new organisation; the progress over 10 years can be measured by comparing it with diagrams given in Annex XV.

But such a reform is meaningless without a transfer of decisions and responsibilities to regional and local levels. It has emerged that real decentralisation in favour of academic region rectorates (at regional level) can succeed only by changing the administrative methods prevailing at this level. This is why new integrated management methods based on data processing are at present being tested in pilot rectorates (see Conclusions, Book III). This change in management at central and regional levels should promote the independence of establishments with user participation by involving users more closely in the decision-making process and expressing decisions more clearly and simply. It will take a few years' operation to discover whether or nor the long-established practice of centralisation has hindered the promotion of this reform.

DIAGRAM X

New Structure of Central Administration of the Ministry of Education

(March 1970)


MINISTER
SECRETARY OF STATE
CABINETS
CABINET OFFICE
GENERAL INSPECTORATES
CHARGE DE MISSION FOR DATA PROCESSING
COUNSELLOR FOR CONTINUING EDUCATION
FORECASTING DIRECTORATE
DIRECTORS CONFERENCE
PUBLIC RELATIONS AND INFORMATION SERVICE
OBJECTIVES
DIRECTOR DELEGATE FOR HIGHER EDUCATION AND RESEARCH
DIRECTOR DELEGATE FOR PRIMARY AND SECONDARY EDUCATION
DIRECTOR DELEGATE FOR GUIDANCE AND CONTINUING TRAINING
CHARGE DE MISSION FOR EDUCATIONAL RESEARCH
CHARGE DE MISSION FOR INTERNATIONAL RELATIONS
RESOURCES
HIGHER EDUCATION AND RESEARCH ESTABLISHMENTS AND UNIVERSITIES
PRIMARY AND SECONDARY EDUCATION ESTABLISHMENTS
TEACHING STAFF
EQUIPMENT
GENERAL ADMINISTRATION AND SOCIAL AFFAIRS
BUDGETARY AND FINANCIAL AFFAIRS
LIBRARIES

Conclusion

REFORM PHILOSOPHY

The absence of precise objectives for the education system which appears to have been a feature of the past ten years may be an aspect of a wider phenomenon - the difficulty of defining what type of society and what type of culture needed to be fashioned. In a period of relative stagnation in human progress where culture looked to the past, the role of the school in the conveyance of knowledge to a restricted stratum of the population was hardly called into question. But this is no longer the case when the fantastic extent of scientific and technical development changes the framework of life, both for whole communities and for the individual. However, whilst evolution of the earlier culture or even far-reaching changes to it seem necessary in this new situation, it appears difficult in this period of progress and continual change to lay down rigid outlines for a new cultural model. This is liable to be very quickly outstripped and, accordingly, the primary concern is for its self-questioning and renewal capacities rather than its content, which is likely to change. This affects the type of education to be offered to society.

1) A new culture

All forward thinking about society is therefore highly speculative, open to constant debate motivated by the continual need to compare model and reality. But where else should we expect such thinking if not amongst those issuing from or still in the various training institutions as teachers and/or research workers and as taught? Looking to the past the education system - the higher levels in particular - has so far been unable to fulfil this role, a role implying that it should accept that existing knowledge and ideas be called into question by scientific progress, that its task is to make the present world understood and that it must participate fully in the formation and concerted development of the world of the future. This does not mean that any study of the past is valueless and would not provide a basis for reflection on the future, but it does call for the abandonment of the passive study of "what was, in order to understand what is and to be able to confront what will be". This would seem to suggest that the new culture needs to be defined in terms of the knowledge of mechanisms rather than of content. The knowledge considered in many ways to be ill-adapted to contemporary life will have to be not so much rejected as extended and diversified. The new culture must have its doors open to science and technology; applied knowledge must always be the complement of theoretical knowledge. If technology itself is to progress, it needs a generous injection of theoretical knowledge in order to find its bearings and to create the bases of its own renewal. This will help to strike the balance between the humanist and scientific sides in contrast with the current narrowness of so-called classical culture. The scientific aspect, previously confined to the exact sciences, needs to penetrate the social sciences more and more, and a number of concepts from the social sciences will be increasingly taken over into the exact sciences.

2) The role of the school

The new education that has to be built will therefore be characterised as much by its very broadly-based, life-oriented curricula as by its capacity for self-reform and constant readjustment. Rather than instruction, the aim will be the training of a modern man capable of understanding his environment and of communicating with and mastering it, in other words, of being a creator. This implies that the education structures will provide an apprenticeship for direct and future responsibility within society's various mechanisms, since it is hardly acceptable that modern man should not be intimately associated, through participation, in the progress to which he contributes.

Without a progressive apprenticeship in responsibility allied to new patterns of knowledge, man could possibly fail to have a real understanding of the world around him. He could not prevent himself being conditioned, becoming a robot and feeling that he were no longer master of his own destiny or a true creator to the extent that he was not associated in one way or another with the dissemination and management of the results of scientific and technical progress.

Since progress in contemporary society demands more decisions by the individuals of which such society is made up and more autonomy in these decisions, educational reform has to be considered as opening the way to new forms of thought, new types of decisions and new social behaviour.

3) Continuing education

Unceasing progress in science and technology means that such education cannot be provided on a once-and-for-all basis. There will no longer be any break between initial training and continuing education. The latter is the corollary to a reformed initial training forming a link between work at school and what children experience in their lives, learning ways of acquiring knowledge so as to up-date it later in life. To be able to continue to educate oneself in adult life means both wanting and being able to do so. During his initial education the adult needs to have been made to see the link between what he sees and experiences and what he has learned so as to feel the need to return to a training circuit that will naturally have readjusted. This will be helped if the initial phase of the child's and young person's training has a very wide common core of polyvalent education and if the various elements of education received can be totalled up in a very flexible manner. Thus it should be possible to enter or leave the education system at any moment, and the system should be accessible to the population at any age for teaching intended to up-date and deepen out-of-date knowledge, to assist self-improvement, or even for purely cultural purposes.

Indeed, now that scientific and technical development has increased leisure time, so-called disinterested culture is going to assume more importance. This means that some branches, in particular the artistic ones, need to be developed during initial training: this will be less a matter of studying a technique than the development of artistic sensitivity and an apprenticeship in the appreciation of works of art. Without this introduction the adult will derive no benefit from the opportunities offered by his leisure and will not be able to reject what may be imposed on him in this field.

As a whole, the new education should give man the opportunity, at any moment in his life, to take his bearings, to question his environment and himself and if he so wishes to improve his education. Aided by the spirit and resources of the new training system, "modern man will be an aided self-instructor". With the student of all ages helped and advised far more than ever before by his teacher (who will now have new teaching techniques and methods to call upon) and with his capacity developed for teaching himself, it will be possible to offer many more opportunities for real training than at present, and not to a restricted group but to the entire population.

4) School for all

Access to culture must not, indeed, be confined to a small section of society since society's development depends on a wider distribution of knowledge. It is therefore important that the education system should not aggravate or multiply any inequalities of an intellectual and psychological order between human beings. The new system of education needs, accordingly, to help everyone to reach his highest level or qualification and acquire all the general culture he can. The training of man must not be subordinated to this or that type of economic organisation or structure.

The training of a complete man cannot therefore stop short at what is required for his introduction into a given kind of productive process. An educated man will not perhaps use all he has been taught. Should he be doing an unpleasant job, the interest in his world that the new culture will have taught him may be some small compensation.

Employment forecasting in any case is uncertain in the long term (considerable time being required for training and for the education system to "react"). But if all are to be offered maximum education, the learner needs to be offered the channels of learning in which he is most likely to succeed. This means, therefore, that throughout his initial training he needs to be observed and guided towards the stream holding the best chances of success for him. This again means the end of education in watertight compartments of structure or curriculum since a change of direction must always be possible.

5) Guidance and selection

There appears to be no drawback, therefore, in the possibility of everyone's education being in advance of the economy. If the latter is the more dynamic because its management grades are better trained, this possibly surplus knowledge will soon be absorbed. Student guidance, of course, will have the benefit of extensive information on the careers available and if these are altered by the march of progress, education - more broadly-based and formative than before - will facilitate readjustment. This will help to prevent the present confusion between guidance and selection. Thus it is not the number of French students that is too high; it is the guidance that is bad for lack of the appropriate educational streams. Giving education this objective does not mean the end of the principle of selection, but instead of the latter preceding or merging with streaming it must be its logical complement. This principle can be summed up in the following words: "the selection of the best through the betterment of all". Since each student will be receiving the maximum amount of education he is capable of acquiring at each level, guidance will be continuous and in no way hampered by barriers limiting access to certain levels of education. It would, indeed, seem contradictory to extend schooling at secondary level and then refuse higher education to some of those who seriously wish to continue their studies.

Some current school mechanisms such as examinations, competitions and types of marking which, despite their democratic appearance, maintain a "culturally privileged" stratum should therefore be revised as a part of educational reform. If school adjusts better to its pupils and thus helps to promote equality of opportunity for all as regards access to education, the various methods of testing would not have the same significance or results as they do today. The certification of studies would, in fact, change in nature as soon as a continuous check on the pupil's work were worked out reflecting the development of his intellectual faculties. The examinations organised at the end of certain cycles (secondary, for example) will therefore tend to check whether the pupil has been suitably trained and in which occupation or group of occupations he seems most likely to succed. Instead of encouraging the spirit of individual competition these mechanisms will help to develop group working and to stimulate the team spirit that has become increasingly necessary in today's world. The rejection of exercises based on memory alone is part of the same principle.

6) Curricula

The first step towards training judgement, developing intellectual curiosity and encouraging the growth of qualities of imagination and reasoning will be to change the curricula. They must be made more alive; sound tools of analysis need to be forged (mathematics), a balance needs to be worked out between branches in relation to their respective roles (development of technological education), subjects needed for the understanding of the way society operates (law and economics, for example) need to be developed as early as possible (end of first secondary cycle); stimulus subjects, artistic disciplines and sports need to be given more importance. Continuous pupil observation requires common study courses for at least two years after the end of the primary course followed by a common core of the basic subjects (French, mathematics, modern foreign languages) mixed with various options allowing the pupil to choose his training stream.

Secondary education, therefore, would move towards a breakdown of the compartmentation separating classical, modern and technical education. There would remain only a single, truly "modern" secondary education with various optional subjects including the classical humanities. The result would be the progressive disappearance of the sharp delineation between the two types of establishment at both first and second cycle levels.

At higher education level the period of observation and guidance must be broadened into a general "pluri-disciplinary" course. The present barriers separating disciplines in higher education, reinforced by the administrative structures and powerful single discipline traditions, should therefore disappear, although this does not mean that universities are no longer to have their own special fields.

7) Teaching methods and teacher training

Teaching methods, too, need to be changed if education is to become more active: the lecture will lose its importance in favour of work in small groups. In particular these methods should allow easy transfer between educational cycles. Thus the last year of pre-primary education should start the initiation of the child into the working methods in primary education; during the last year of secondary education habits of individual study should be encouraged prior to entrance into higher education. Because the object will be to teach how to "learn", and to improve, it will be necessary to take the real possibilities of each child into account in order to give him the best possible opportunity. Even the age of entry into compulsory education may change and some aspects may be non-compulsory so that some pupils may first absorb the basic ideas and tackle the other disciplines later. The development of alternative and non-compulsory subjects throughout school life will help towards the easier discovery of children's aptitudes.

The teacher's role will change completely. He will become a stimulator and a leader using the various new techniques available in education to gain a deeper personal knowledge of the children in his class. Exemplifying what he will be required to teach his pupils, he will work with his colleagues as a member of a team, be they teachers, doctors, psychologists, documentalists, administrators, cultural stimulators or specialists in the new technologies available to the school system. The role of the senior teacher, as stimulator of in-class and out-of-class activity, at the level of his form, will become more important at secondary first cycle level and even more so at second cycle level and perhaps beyond, in view of the essential co-ordination of information regarding the pupil that is necessary if he is to be observed and guided. The functions of the head of department, too, should develop, particularly for the various disciplines.

Inter-teacher collaboration must also be developed between those teaching in different cycles, whose working methods and decisions affect all concerned. The obstacles, sometimes psychological, due to the highly differentiated forms of teacher training leading to firmly established hierarchies and excessive categorisation, must be made to disappear completely not only in relation to the various cycles but also within a given cycle. The various teacher types should receive training of equal value, the differences in aptitudes being allowed for more specifically in the education cycle to which they are posted. Education's new tasks imply a raising of theoretical and practical teacher training standards for all teachers alongside their academic training. Practically all teachers should therefore receive university education and their teacher training should lay stress on child and adolescent psychology, examination theory, observation of pupils and their progress, use of the various teaching methods and techniques, communication and stimulus techniques, etc. This training could include an introduction to applied research conducted experimentally in the field so that innovations in the education system can be developed and introduced more easily. Continuing education would be merely a logical extension of initial training to the extent that the latter leads the teacher to consider himself in relation to the teaching he imparts, to question himself where necessary and to try to renew and deepen his own knowledge. Lastly, special training will be needed for heads of establishments whose role will be of primary importance in promoting innovation and improving educational effectiveness.

It should also be noted that in the first stage the development of continuing education for the various strata of the population will not be the result of having the greatest possible number in the various types of establishment concerned - particularly in higher education. It will be based on "leaders" or "stimulators" from various backgrounds whose inadequate cultural level provides no incentive to look for cultural opportunities, and who will receive special training by special methods and at a special rate of progress. These "trainers" will then be called upon to train adults from the same background.

8) Participation and school life

Lastly, the renovation of teaching methods, involving new relationships between teachers and taught, would appear to be hardly possible without a transformation of school and university life.

The participation of all involved should be the basis of the effective and dynamic functioning of the various types of establishment. At the various national, regional and local echelons and at individual establishment level, teachers, pupils and parents should all be associated with the main decisions taken. The various categories concerned, taking an active part in the actual running of the establishments, will be better able to see the reasons why and to accept changes. By encouraging dialogue and by giving everyone a sense of responsibility, this will introduce pupils and students, by practical example, to democracy in action and to a knowledge of the mechanics of management. Close association between teacher and taught will help to change the relationships that were maintained previously, correct the pupils' passiveness which was formerly the rule and stimulate the team spirit in specific practical tasks.

The compulsory or optional recourse to outside persons to sit on the various boards is an indirect way of opening up the school far more to its environment. This participation is naturally associated with greater autonomy of establishments (within the framework of the national education administration) and the cutting down of their size to human proportions. Thus, to promote continuing education, for instance, regional university associations will be formed for adult education and training whose task it will be to find out the needs for continuing education and the various ways of meeting them. Trades unionists, heads of firms, holders of managerial posts, distinguished residents and teachers will be the stimulators of these associations.

The new school system does not merely amount to handing over to pupils a large part of the responsibility for the establishment's discipline and organisation. Pupils need to be able to examine the political and cultural development of their country in social and educational associations or groups attached to a teaching establishment. The organisation of broad debates where all opinions are represented will enable the young, first to organise and understand better the often ill-ordered flood of information provided outside school, and secondly to extend and illustrate some of the courses they are following. The organisation of these activities in itself, shouldered by the pupils, will help their sense of responsibility and team effort to be strengthened by a form of activity lying somewhere between education and certain of the working systems of daily life. At the same time, life within the establishments will need to become more modern, liberating discipline from some of its outdated rules incompatible with youth's earlier maturity, and to have a more open attitude to life, developing many stimulus activities and reviewing both the architecture and equipment of establishments in order that the education given in them may fully achieve its purpose.

The objectives of educational renewal and the development of the necessary resources will be impossible unless educational research and development and planning activities grow rapidly and become the main "vectors" of continuing innovation within the education system. The school for all must be an efficient school and for this condition to be met, first, education's objectives have to be clearly defined and, secondly, the spirit of the various reforms has to form a whole, applying to the entire education system without exception. This is the task the French authorities have been tackling since summer 1968.

BOOK III

EDUCATIONAL PLANNING IN FRANCE

Introduction

As described in Book II, the structural changes in the education system since 1959 raise the question of the conditions in which the system as a whole is to function. In terms of existing structures and programmes as described above, the problem is to accommodate a stream of pupils oriented according to their aptitudes and to the expected breakdown of enrolments by providing accommodation, equipment and an adequate number of suitably trained teachers.

This sort of adjustment is achieved through the planning mechanism. While France has had 20 years of planning experience, the Fifth Plan actually corresponds to the Third Plan for educational development as such(1).

The three educational development plans evolved by the Commissions for School, University and Sports Facilities under the Third, Fourth and Fifth French Plans show trends from which it is possible to determine the basic characteristics and the points of impact of educational planning as currently practised.

I. CHARACTERISTICS AND DEVELOPMENT OF EDUCATIONAL PLANNING IN FRANCE

A. Integral Planning

From the very outset, educational planning in France has been considered part of an overall planning effort for the entire economy. This is of major importance. Educational planning in France has never been an independent process; educational development has always been considered in parallel with development in other sectors of the economy and in terms of a number of vital overall equilibria such as production-consumption, employment, public finances, external finances, etc. This approach would be of considerable interest were it not more apparent than real. In essence, the early educational plans (up to and including the Fourth Development Plan, i.e. the first two educational plans) constituted an attempt to strike a balance between family demand and the financial resources that could be allocated to the education system. This led to an equipment programme aimed at providing school and university facilities, together with a number of quantitative objectives regarding the number of teachers required. This was tantamount to considering the education system primarily as a consumer and a consumer of public funds at that, in view of the share of expenditure borne by the state. Consequently, the proposals of the Commissions for School, University and Sports Facilities set up when preparing the different plans were invariably

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1) The Commission de l'équipement scolaire, universitaire et sportif set up under the Second Plan did no more than define the financial framework.

subordinated to the balancing of public spending and this was often more or less detrimental to the achievement of the objectives defined by the Commission. Insofar as the development of the education system is concerned, there is a contradiction between the sector concept governing the determination of objectives, the narrowness of the objectives chosen and the adjustments made in terms of only one of the equilibria considered when assessing the consistency of the Plan at national level.

B. Partial Planning

This brings us to the second characteristic of educational planning in France: such planning is partial, for the following two reasons.

For one thing, a balance between the trend of family demand and the financial resources available is too limited an objective. Secondly, such plans are quantitative rather than qualitative in nature as objectives are usually expressed in terms of enrolment rates and numbers of teachers. There has, however, been a definite development under the impetus of the various reforms, which was already evident in the preparation and implementation of the Fifth Plan and will undoubtedly be even more characteristic of the Sixth Plan.

And, in point of fact, inasmuch as the current reform has led to new educational structures such as the Collèges d'enseignement secondaire and the university institutes of technology, the balance between the trend of family demand and the financial resources available no longer constitutes an adequate criterion. In preparing the Fifth Plan, the setting of optimum enrolment rates for each type of course thus became a prerequisite for implementing the reform.

This distribution was then compared with the demand for qualified personnel calculated by the Manpower Commission. A step forward has thus been made by the occupational training/upgrading intergroup under the Fifth Plan. This is a preliminary approach and much still remains to be done before the results of these studies can be used on a conclusive basis.

Under the educational reform new curricula and teaching methods have been introduced (e.g. the terminal practical cycle) which have had repercussions on the type of teacher required and, consequently, on training structures. There is therefore a slight tendency towards more global and more qualitative planning. However, this is still fairly superficial and, at the present stage, it is found that some quantitative objectives cannot be achieved for want of measures of a qualitative nature. For instance, there are disparities in the Fourth and Fifth Plans between the objectives regarding science faculty enrolment rates and the teaching of mathematics from the standpoint of both curricula and teacher training, a phenomenon evident throughout the entire cycle (so that there are not enough science students for the large number of places available, while on the other hand the intake capacity of other forms of higher education has become inadequate owing to the number of transfers).

The cause of such disparities resides in the fact that reforms and planning are independent of each other, with the result that implementation difficulties, delays and discontinuities have the effect of solidifying the existing situation instead of promoting change.

Thus, while the "concrete-pouring stage" is a thing of the past, to quote from the report on the implementation of the Fifth Plan (December 1968), "we have not as yet progressed to the notion of planning the educational function", which would take into consideration the equilibrium between education and social development through an overall, qualitative planning process constituting an integral part of economic development as a whole.

C. Medium-term Planning

The third and last characteristic of educational planning in France is that it is medium-term (four to five years), albeit usually within a longer-term context, at least as far as enrolments are concerned /The Commission for the Fourth Plan (1962-1965) made forecasts for 1972-73 and 1975-1978/. Some parts of this medium-range plan may be incorporated in a mandatory "programme-law" as was the case with the Guideline and Syllabus Act on Vocational Training of 1966, but this is not usually the case. A financial bill is voted for each annual instalment of the Plan, and on this occasion the budget of the Ministry of Education is subjected to further adjustments in the light of requirements of economic policy, with possible cuts in allocations to the education system for buildings (capital expenditure) or teachers (operational budget).

Alongside the Plan defining medium-term physical objectives there is therefore a budgetary procedure geared to current economic policy rather than to development policy. And, since the final phase in the implementation of the equipment plans has invariably coincided with a buoyant phase of the economy, leading to a cutback in public spending, the implementation of educational plans has generally fallen short of the physical objectives. All this is intended to promote an educational policy which can only be planned on a long-term basis.

One of the causes of this discontinuity and the resulting impression of incoherence seems to be the weakness of educational research. The result has been a lack at all levels of the basic data which are indispensable for fundamental thinking on the different aspects of the development of the education system.

II. EDUCATIONAL RESEARCH IN FRANCE

If the school is to be adapted to the needs of society and to the new educational objectives, much greater importance must be given to educational research.

In this respect, the situation in France is changing rapidly. New structures are being set up and tighter links than previously are being forged between research and the education system. It is not possible, however, at this moment to tell what will be the future of projects currently under way.

Moreover - and this is a measure of the insecure standing of research at the present time - available information is inadequate and fragmentary on several of the aspects to which brief reference will be made: research and development organisation and its relationship to educative practice, the structure and size of research projects, the main fields of research and questions relating to training.

The institutional framework of educational research and its actual practices have not been such as to promote an effective contribution by research to the education system as a whole. There is nothing surprising in this when it is realised that even countries with a history of encouragement to educational research and currently able to call upon powerful infrastructures in this field, such as the United States, the U.S.S.R., Japan, Canada, the United Kingdom and, more recently, Germany, are now concerned to define a more effective organisation enabling research in these fields to make the irreplaceable contribution it provides in others.

As was noted in Book I, the notion of educational output has not been re-defined up to now with a view to structural changes in the education system.

A cost-output analysis seems therefore out of the question for the present. Only qualitative descriptions - in which it is difficult to bring out the relationship between quantitative and qualitative aspects - can be undertaken, indicating what has been done and what is missing, rather than a comparison between successes and failures.

A. Organisation of Research and Development and its Relationship to Educational Practice

1. Research planning

At the very start it will be noted that there is no real planning of educational research.

Prior to 1968 there was no single body responsible for devising and supervising research projects as a whole under the aegis of the Ministry of Education. A National Education Research and Development Committee was formed in that year but does not seem to have functioned.

After 1964 a trend towards centralisation emerged, evidenced by the setting up of various structures in the Ministry of Education designed to ensure continuous liaison between certain research centres and the government decision-making bodies. These agencies are the Service des études pédagogiques (Educational Studies Department) and the Bureau des programmes de recherches sur les besoins en matière d'éducation (Office for Research Programmes on Educational Requirements); the latter has done a substantial amount of documentation work.

At regional and local levels there is no planning body in spite of the proposals that have been made for one, particularly at the Amiens Colloquy (1968).

Outside the Ministry of Education, a draft report prepared in 1965 for the Commissariat Général du Plan putting forward an educational planning scheme was not followed by any practical steps to implement it.

2. Research co-ordination

In France, as in many developed countries, the co-ordination of research in education raises a number of problems.

Communications between research centres are very loose and do not exist at institute level. This means there is no association between basic and applied, action-oriented research: it can be said generally that the former is carried out mainly in the universities and the CNRS(1) whereas the latter is conducted in independent, mainly public, establishments without any link between the two. Within the centres devoted to the two types of research, the same lack of co-ordination is present. University and CNRS laboratories carry out their programmes independently and this is also true of applied research institutes whose tasks are very clearly laid down: teacher training, pupil and student guidance and research on audio-visual aids to education.

Finally, as regards university laboratories, the majority of projects consists of doctorate theses which, in general, are in no way related to an overall programme.

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1) Centre national de la recherche scientifique (National Scientific Research Centre.)

There is no co-ordination at institute level between the two main bodies commissioning research: the Ministry of Education and the Délégation générale à la recherche scientifique et technique (General Scientific and Technical Research Delegation) which administers the sums voted to the Fonds de la recherche scientifique et technique (Scientific and Technical Research Fund).

3. Development structures

Three series of remarks can be made on the relationship between research, development and the education system.

- Research results rarely materialise in experimental implementation, i.e. development structures based on research are practically non-existent. Thus pilot experiments on the systematic use of audio-visual aids in some secondary establishments, including the Marly-le-Roi CES under the supervision of the Institut Pédagogique National (National Education Institute), the Saint-Cloud Centre Audio-visuel (Audio-Visual Centre) and the Sèvres Centre International d'Etudes Pedagogiques (International Educational Studies Centre) have not so far produced any publishable scientific results, yet these would be of vital importance for future development.

These innovation experiments do not appear to be the outcome of co-ordinated research projects covering basic research, experimental application and evaluation of results.

- Such development experiments as have been made so far have had very little impact on educational practice. In general they do not go beyond the originating structures and somehow tend to die away rather than spread. This is the case, in particular, of pilot schemes in the audio-visual aids field.

- Lastly the experiments are hardly ever set up within an appropriate institutional, juridical and financial framework. This makes it difficult if not impossible to make innovations in teacher recruitment and education programmes and structures. Thus the conditions required for real experimentation are not always met.

B. Structure and Size of Research Projects

1. Project structure

Research projects generally correspond to the two types of centres already referred to: fundamental research projects are carried out in establishments belonging or attached to the university or CNRS, applied research projects in other public establishments (the amount of educational research done by private organisations being negligible).

The former are mainly conducted in the form of doctoral theses (some state, but mostly third-cycle doctorates). Actually these still constitute the principal form of research projects of all types. Available statistics show that they represented:

- 35 per cent of research projects between 1961 and 1966, and
- almost 50 per cent of projects in progress in 1968.

Since theses are individual and generally prepared under inadequate physical conditions, they are restricted in scope and often confined to documentary research. This explains why work on the history of education and comparative studies on education come to represent 45 per cent of all theses presented from 1944 to 1967.

Thus the considerable increase in the number of theses in recent years is not merely evidence of an overall increase in educational research but a fact which is significant in itself.

Applied research projects are generally conducted under better conditions in well-equipped centres where the work is usually carried out by groups.

2. Volume of research

A few statistics are all that is needed to show that the volume of research in France is far from reaching the "critical mass" below which its possible use by the education system would have little effectiveness. Here are some significant figures:

- research centres whose activities include educational research number 35 employing about 280 full-time, or full-time equivalent, research workers (only ten of these centres are exclusively engaged in educational research: they employ about 100 full-time research workers);

- the number of research centres doing occasional research on education is about 40, with the equivalent of some 50 full-time research workers engaged on such research;

- the educational research budget represents about 0.06 to 0.09 per cent of the national education budget.

C. Main Research Fields

Educational research continues to concentrate on traditional educational subjects: basic research on psychology and sociology and on educational techniques and methods - in recent years particularly audio-visual aids. Notable is the small number of projects on the objectives, structures and curricula of the education system and the problems of teacher and research-worker training.

Nevertheless the general subject of the democratisation of education has led to an increasing number of studies on the economic and social aspects of education (conducted in the first place within the Ministry of Education and the Commissariat du Plan) and their incidence on questions of pupil guidance, the devising of curricula, methods, etc. Important work is being carried out on these subjects and there is reason to suppose that educational research in France is entering a new phase of development characterised by the growing attention paid to relations between the school system and society(1).

D. Training and Research

Linked with the unclear position of research on the education system is the separation between research workers and teachers created by the respective training of the two groups.

Thus, as the French authorities have frequently stressed, the educational training for teachers is not adapted to the new role expected of them, particularly that of the continuous changing of the actual conditions of their teaching. The "educational concern" - which, as noted by the Amiens Colloquy's commission on educational research, is acquired during training and is the very lifespring of the "taste for research" - is basically absent.

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1) Cf. OECD document DAS/EID/69.48, pp. 17 - 23, for more detailed information.

Moreover, the training of research workers, which is inadequate in most cases and too theoretical, is a factor that is both cause and effect of the present situation (so ill-defined in all its institutional aspects) and of the lack of connection between research and practice in education. An interesting fact in this context is that there are only three chairs of educational science in all the French universities together.

The inadequacy of French educational research has had repercussions on the mechanism of planning, i.e. the approach to problems, definition of objectives, etc.

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Book III deals with the mechanism of planning. The task here is to evaluate the functioning of this process and determine its main points of impact.

The following factors will be considered in turn:

- enrolment forecasting
- estimating and ensuring investments
- teaching staff.

Part One

FORECASTING SCHOOL AND UNIVERSITY ENROLMENTS: EVALUATION OF THE VARIOUS METHODS

In France, medium-range forecasting of potential enrolments constitutes the first step in the planning process, whatever its scope and complexity.

In theory, such forecasts can and should be made at a number of levels, i.e. global or semi-global forecasts, forecasts by cycle and type of education, geographical breakdown of these forecasts at regional level.

At global or semi-global level, four factors are involved in forecasting the increase in enrolments: population, internal migration, growth of the social demand for education and qualified manpower needs.

Population trends are used in determining the theoretical school-age population from the trends in the birth rate, the death rate and immigration(1). Although apparently simple, population projections are nonetheless subject to unexpected developments. A trend reversal of unforeseeable amplitude and duration in the birth rate (as the period 1963-1966) affects, in the medium term, pre-school education, or a change in the volume of immigration (repatriation from Algeria in 1962-63) suddenly increases enrolments.

Sociological factors (social demand) are mainly reflected in trends in enrolment rates which, in turn, depend on many other factors - length of the compulsory schooling period, intake capacities (both globally and by region) - which exert an influence on family preferences. Family preferences, in turn, are shaped by a large number of economic and sociological factors: the trend in the spontaneous demand for education is linked to economic growth, to the pattern of such growth and the resulting changes in productivity and income levels, to the length of the working week, the degree of urbanisation, the standard of living, etc. In view of the importance, number and complexity of the factors affecting the trend of the enrolment rate, a mere extrapolation of past trends or of their rate of change would seem inadequate. Highly detailed analysis of propensities (standpoint of demand) and conditioning factors (standpoint of supply) appears essential. In most cases, however, the statistical data are grossly inadequate and one has to make do with problematical estimates supported, at best, by comparisons with economically advanced countries.

As just mentioned, factors of an institutional and structural nature have some influence on the trend of spontaneous enrolment rates; this applies to the extension of the compulsory schooling period or the intake capacity, which determines the degree to which the demand for education can be met. The past trend of the spontaneous enrolment rate must not be considered as an absolute. Such institutional and structural factors have an even more direct influence on the task of forecasting enrolments. Any change in the length of the compulsory schooling period creates a

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1) In view of the vital role they play, demographic projections must be of very high quality.

discontinuity in the spontaneous trend of enrolment. Furthermore, educational structures themselves, the nature of the various cycles and the types of education offered affect demand. Thus, global forecasts of enrolments by age bracket are derived by applying the enrolment rate for each age bracket(1) to the population projections. While such projections are the determining factor for the compulsory schooling period, the trend in the enrolment rate is the decisive factor with regard to schooling beyond this period.

Forecasts by cycle and type of education involve, in addition to the factors mentioned in connection with global forecasting, other factors such as overlapping age brackets and distribution problems.

Sizable discrepancies between the theoretical age for enrolment in any given cycle and the actual age can, if the output/input ratio of the system is low enough, cause a considerable increase in the intake capacity required. One of the purposes of the reform is precisely to reduce such overlapping.

Insofar as the pattern of enrolment is concerned, a number of factors must be taken into consideration. In a structurally stable system, reference may be made to past trends, for effective intake capacity constitutes a key factor in distribution problems. When an educational reform is being implemented, however, it becomes very important to examine the continuation rate from one cycle to the next (especially if the compulsory schooling period is being extended), and with new structures for which new intake capacity must be created any attempt to determine the pattern of enrolment will be hypothetical and arbitrary.

Still other factors are involved in determining the regional breakdowns corresponding to global forecasts and forecasts by cycle, namely the various forms of internal migration and the geographical distribution of pupils. Internal migration creates very specific needs, primarily for pre-school, elementary and first-cycle secondary education, facilities for which must be located near children's homes. In this case, new housing programmes are considered, and the proportion of such housing generating a demand for schooling is determined.

In determining the geographical pattern of enrolment, three forecasts must be taken into account:

- number of students originating in the academic region in question;
- number of students enrolled in that region;
- number of students from outside.

Taking all these factors into account, we obtain a breakdown by region, cycle, type of education and age bracket of the population to be enrolled in any given year. In the French planning effort, the objective of such forecasts is fairly simple as they are used for determining the volume of investment credit required and the number and type of teachers to be recruited. Even with this very limited objective, does enrolment forecasting as carried out in France provide adequate support for the planning process? Part One constitutes an attempt to reply to this question, and is divided into three chapters:

- Chapter I deals with forecasting methods and the way they have developed with successive Plans.

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1) The factors which might influence these enrolment rates have not yet been analysed for lack of adequate sociometric data. In these circumstances all that can be done is to extrapolate the trend or else adopt more or less arbitrary targets.

- Chapter II is devoted to a comparison of predicted and observed effects and tries to explain the disparities.
- Chapter III deals with the problem of introducing manpower requirements at each level into enrolment forecasting. This problem may seem a basic one and, therefore, one which ought to be incorporated into the actual forecasting process. In point of fact, however, the consideration of manpower requirements is too recent a development to be incorporated properly into the planning process.

Chapter I

METHODS OF ENROLMENT FORECASTING AND THEIR DEVELOPMENT

Different factors must be taken into consideration in the case of compulsory or of subsequent schooling, and, with regard to the former, in the case of a "common core " or diversified courses. During the preparation of the last three Plans, moreover, there have been certain changes and progress has been made in the methods employed.

I. ENROLMENT FORECASTING TECHNIQUES BY NATURE AND TYPE OF EDUCATION

A. Compulsory Schooling

During the period under consideration (1957-58 to 1972-73) compulsory schooling has been extended from eight to ten years, the school-leaving age being raised from 14 to 15 in 1967 and again to 16 in 1968. Before being extended, the compulsory schooling period covered only primary education for the vast majority of pupils(1); at present, it covers primary education and also a variety of types of secondary education.

1) Primary level

Compulsory schooling includes the five primary classes, the special classes for handicapped children, and the terminal classes. The last are to be abolished by 1972-75; throughout the period considered, enrolment in such classes has been affected by the diversified two-year guidance cycle set up under the Fourth Plan and extended to four years under the Fifth Plan.

Forecasting work is therefore based primarily on population trends (including external migration), which constitute the key factor. Such forecasts would be of little use, however, without a number of educational and structural corrections.

From the educational standpoint, three factors must be considered:

- the number of children in different age brackets enrolled in a particular cycle (children under six or over eleven), with certain assumptions as to the future pattern of such overlapping of age brackets, which should become less frequent as pre-school education is developed and the first cycle of secondary education is established;
- the number of repeats estimated very roughly;
- the proportion of children to be enrolled in special classes. This is also an estimation.

From the structural standpoint, two other elements must be taken into consideration:

- the gradual abolition of terminal classes, starting from the beginning of the Fifth Plan;
- the gradual introduction of the observation and guidance cycle.

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1) Enrolment in the "6e" (first year of secondary education) usually implied continuing school beyond the compulsory period.

2) Secondary education

It was not until the Fourth Plan (with the introduction of a two-year guidance cycle) that the compulsory schooling period began to extend into secondary education as such. The latter is now subdivided into two cycles, a first four-year cycle falling within the compulsory schooling period, and a second three-year cycle thereafter. Under the Third and Fourth Plans, the compulsory schooling period covered only two years of secondary education, without there being a common core as in primary education. Thus, in addition to population considerations and analyses of patterns of schooling (promotion rates), forecasting requires a thorough study of the trend of enrolment rates in order to establish the overall pattern of enrolment for long courses, short courses, or terminal courses (primary terminal classes). Under the Third and Fourth Plans, however, forecasts regarding the trend of enrolment rates could fairly safely be based on observed trends, inasmuch as structural changes were negligible. Such was not the case with the Fifth Plan, as the definitive establishment of the first cycle in specific establishments offering several sections of a traditional type constituted too important a structural change for a mere analysis of the trend in enrolment rates to offer an adequate basis for implementing the reform. As in the past, an analysis was made of enrolment rates (past tendencies and probable future trend), supplemented by arbitrary assumptions as to the pattern of enrolment.

B. Optional Schooling

This covers both the periods prior to and following the compulsory schooling period.

1) Primary level: pre-school education

Forecasts are based both on population considerations and enrolment rates by age bracket.

At this level the greatest uncertainty is in the population factor, as some of the children who will actually be enrolled during the period covered by the Plan are not even born at the time the forecasts are made.

In view of the substantial growth of enrolment rates, what was extrapolated was their acceleration rather than the observed trend, limited in practice by the intake capacity. At this level, the elasticity of demand (in terms of a number of factors such as internal migration, the development of large complexes, the increase in the number of women in employment, the change in cultural values) is such that were it not for the limitations imposed by inadequate facilities and the lack of teachers, the spontaneous enrolment rate would be very nearly equal to the compulsory schooling rate.

2) Secondary education

At this level forecasts are based on population factors and the trend in the enrolment rate, the projection of which is associated with arbitrary objectives regarding the desired effects of such and such a reform and conditional factors regarding the actual implementation of these reforms over a period. The comparison between the extended trends and the desired objectives gives different results according to whether one considers overall enrolments or the breakdown by cycle and type of education.

When the global method is adopted (estimates of overall enrolments) the differences are negligible because governmental decisions do nothing more than sanction a spontaneous evolution. With regard to the breakdown by cycle and type of education (long and short courses, general and technical education), the arbitrary approach undoubtedly prevails, the extended trend often lagging behind the educational development policy.

3) Higher education (faculties)

During periods of regular growth, the confidence interval for extrapolations of past trends is fairly wide, but this does not hold true in periods of rapid growth and structural reform. Thus, during the first half of the Fifth Plan the population factor will remain predominant and will continue to have some weight throughout the entire period of implementation; the reforms in the "2e" and in higher education will affect the trend in enrolment rates. Thus, the use of the habitual pattern of promotion rates

$$\frac{\text{new faculty enrolments in year n}}{\text{baccalauréat holders in each series, year n - 1}}$$

gives little indication as to future trends. Moreover this ratio uses statistical, structural and constant data and promotes the autonomous development of the system. This also means that growth at one level is bound to have repercussions up to the summit of an educational system. It does not materialise in actual fact, but is the result of a forecast in terms of stocks.

In addition to these estimates in terms of stocks, use was also made, as far back as the Fourth Plan, of normative distributions within certain cycles; for example, the distribution of students between the various disciplines. Certain ratios are even set in advance (as was the case under the Fourth Plan) for the breakdown within a particular discipline between students enrolled in faculties (75 per cent) and those enrolled in the university institutes of technology (25 per cent). These distribution figures are rarely adhered too as very little is known about what happens on the borderland between the cycles.

II. CHANGES IN FORECASTING TECHNIQUES IN THE SUCCESSIVE PLANS

A. Period of the Third Plan (1956-57 to 1959-60); Horizon year 1965-66

The general report of the second Commission for School, University and Sports Facilities(1) appeared with the Third Plan. One of its aims was to assess the numbers to be enrolled in public primary, secondary and higher education in the terminal year of the Plan. For higher education the forecast was limited to French faculty students.

In secondary and higher education the following rates are used: the "6e" pupils in year n provide the baccalauréat graduates in year n + 7. To assess student numbers baccalauréat holders are broken down by series and the number of new entrants obtained by applying the ratio between enrolments in the different faculties in year "n" and baccalauréat holders by series in year n - 1. On this basis an estimate is made of the total first-year enrolments and the total number of faculty enrolments.

An extension of the trend adjusted for the new regulations governing admission into the "6e" is expected in the case of classical and modern lycées.

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1) The first Commission had made only an overall assessment in connection with the Second Plan; the real work of forecasting started with the Third Plan.

The trend in long technical education will remain subject to the constraints resulting from shortages of buildings and staff, but an increase is forecast in enrolments in the Cours complémentaires (continuation courses) in view of the establishment of specialised sections. A simple extrapolation of the trend is expected in higher education.

These methods, rather rudimentary, imply the assumption of structural continuity in the system in which a spontaneous demand is operative.

B. Period of the Fourth Plan (1960-61 to 1964-65); Horizon year 1970-71

The forecasts covered school and university enrolments (French and foreign) in public education. Private education is merely estimated.

A method similar to that of the Third Plan was used for the overall forecasts and a simplified method for forecasts by academic region. The simplification consists in using fewer rates and ratios, and is based on two ratios:

$$\frac{\text{baccalauréat holders in year n}}{\text{"6e" pupils in year n - 7}}$$

broken down into:

$$\frac{\text{"2e" pupils in year n}}{\text{"6e" pupils in year n - 4}} \quad \text{and} \quad \frac{\text{baccalauréat holders in year n}}{\text{"2e" pupils in year n - 4}}$$

and on the ratios:

$$\frac{\text{French students in year n by series and disciplines}}{\text{baccalauréat holders in year n - 1}}$$

These coefficients were calculated for the ten preceding years, extrapolated in each academic region and then aggregated.

For the two-year observation cycle, apart from the five per cent of handicapped children enrolled separately, the breakdown between lycées and CEG's(1) was made by extrapolating the trend. For the long and short courses ranging from the "4e" to the terminal classes, the breakdown was made on the basis of two assumptions:

	Assumption 1	Assumption 2
Classical, modern and technical lycées (5 years)	35%	40%
Short course (2 years)	40%	35%
Vocational education (3 years)	20%	20%
Special education	5%	5%
	100%	100%

For the first years of education Assumption 1 seemed to be more consistent with aptitudes emerging at the end of the observation cycle, but from the "2e" onwards Assumption 2 was adopted since a number of pupils from the short cycle went on to long vocational courses. These forecasts were made in terms of the 1970 horizon, considered as a definite plateau owing to the extension of compulsory schooling, the full application of reforms and the stabilization of age groups.

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1) CEG: Collège d'enseignement général (providing short modern secondary courses).

In higher education the extrapolation of past trends is linked with normative objectives for science faculty enrolments, which should account for 42 per cent of the total, and for the development of the third cycle.

For the geographical distribution of enrolments, but only for the secondary terminal classes and entrance into higher education, use was made of enrolment rates by age group in each academic region.

C. Period of the Fifth Plan (1965-66 to 1970-71); Horizon year 1972-73

The methods of the Fourth Plan were again used but with strong emphasis on the enrolment rates by year of age.

Enrolment rates are estimated on the basis of past trends and chosen in terms of objectives to be attained (mainly in technical and higher education) and it is here that the link-up with manpower forecasts occurs.

The Manpower Commission supplied the Commission for School, University and Sports Facilities with indicative information on the probable extent of requirements of qualified personnel by levels and in relation to the total active population.

Forecasts of objectives to be reached were used more than forecasts projecting past trends.

It should be noted also that for the Fifth Plan student numbers were estimated by means of the ratio:

$$\frac{\text{French and foreign students in year } n}{\text{baccalauréat holders in year } n-1,\ n-2,\ n-3 \text{ and } n-4}$$

With this coefficient it is possible to take into account baccalauréat holders entering the preparatory classes and engineering schools. Even so, although this is an improvement, it does not eliminate the uncertainties due to variations in the rates of success in the baccalauréat.

The overall forecasts are as follows:

- First cycle: the enrolment rate should be 100 per cent in 1972-73 and 110 per cent in 1975-76 allowing for repeaters, implying the effective introduction of the new CET(1) in two years.

- Second cycle: in the light of the following three elements:
  - . demand (extrapolation is insufficient here because spontaneous demand was curbed in the past and will be further increased by the extension of compulsory education);
  - . the needs of the economy (inconclusive data from the Manpower Commission take no account of technical progress); and
  - . shortage of financial resources and teaching staff. The following breakdown was made of enrolments at the point of passing from first to second cycle:

	Percentage
Long course	35
Short course	40
Employment	25

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1) CET: Collège d'enseignement technique (providing short secondary technical courses).

The breakdown by type of education in the long second cycle, excluding wastage and taking account of a repeat rate of 14 per cent throughout the cycle, shows the following trend:

	General education	Technical education
1964-65	71 per cent	29 per cent
1972-73	65 per cent	35 per cent

Forecasts for the short second cycle were fairly difficult to make because it had been newly introduced and entry depended on the effective completion of the first cycle. It was therefore considered sufficient to compare two extrapolations: the enrolment trend in the third and final year of the former CET and over the total three years of the former CET; but the results were inconclusive.

- Higher education: compared with the highly normative forecasts of the Fourth Plan, those of the Fifth Plan seem to be more realistic although they also set objectives for the increase of scientific personnel (to obtain in 1972-73 the percentage forecast for the Fourth Plan, including the IUT) and the development of new structures such as the university institutes of technology.

III. CONCLUSIONS CONCERNING TRENDS IN CONTENT, OBJECTIVES AND METHODS

A. Content of the Forecasts

There has been no appreciable change, although the horizon year tends to move further away and the scope of the forecasts is somewhat wider covering, for instance, private education, the Grandes Ecoles, a breakdown by level and discipline and a geographical distribution.

B. Objectives

Here, too, there is no change, the objective being to determine the volume of investment credit required(1). This is a very narrow objective and therefore all the easier to question. However, the attitude towards forecasting has changed from the "spontaneous" approach (investment required to meet the demand) to a more "arbitrary" approach (inflecting demand towards selected objectives and determining the investment required to attain them).

C. Methods

During the Second, Fourth and Fifth Plans methods were somewhat improved and several different methods were compared (overall forecasts and aggregate forecasts by academic region).

There was also an improvement in the definition of the initial assumptions which take increasing account of the effects of the reform and of real behaviour. But this is still very empirical, and in an unstable period forecasts by cycle and type of education, if not global, prove to be less and less valid.

There are several reasons for this, namely:

- the statistical system is deficient as regards flows; the only statistics that can be verified are those for stocks, which are not suitable for a planning approach;

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1) Teacher requirements are not evaluated in financial terms, but such forecasts have a direct bearing on the annual operating budget and a very indirect one on the equipment budget.

- the forecasts are still mostly based on the population factor(1), the enrolment rate factor being used less frequently since it is much more complex. There is a lack of computing devices for co-ordinating, from the demand aspect, propensities involving economic and psycho-sociological elements such as income, employment, standard of living, social standards, degree of ambition, etc. and, from the supply aspect, conditional factors such as intake capacity, system output and requirements of graduates. The inertia of the system cannot therefore be measured, which is a serious matter in times of structural upheaval.

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1) The population forecasts are not always very reliable owing to the difficulty of forecasting internal migrations (Fifth Plan) or the birth rates for pre-school education.

Chapter II

COMPARATIVE TREND OF FORECASTS AND ACTUAL ENROLMENTS - ATTEMPT TO EXPLAIN THE DISPARITIES FROM 1956-57 to 1967-68

A comparison between actual enrolments and the forecasts of the three successive Plans shows many positive or negative differences (actual enrolments/forecasts).

If there are explanations for the differences, it does not seem on examining the series and graphs that there are any general criteria for them. The range of possible factors is very wide and while methodological factors are important and always enter into the explanation, many other factors in turn play a decisive role.

Some of these factors are difficult to recognise: for instance, sociological factors which are comparable to propensities determining choices and courses and are derived from numerous economic and psycho-sociological elements.

The most interesting elements are the constraints on the system, governing the trend of enrolments and the interplay of "propensities" (intake capacity, force of inertia, resistance to change). It is here that relationships form between enrolment forecasts, the assumptions on which they are based, the methods used, the implementation of the plans and their integration or non-integration into a wider planning process.

Owing to the variation in educational structures over the whole period it is not possible to obtain continuous homogeneous series, in particular for secondary education where the content of the various types and levels of education has varied over time.

A study will therefore be made of the forecasting period corresponding to each of the three Plans and an attempt will be made at each educational level to find a plausible, if not demonstrable, explanation for the various differences, from the standpoint of the assumptions, the forecasting method and the means actually employed. Finally, the realisation of the estimates of the Plan for handicapped children will be considered separately and globally. This will be followed by an attempt to find comprehensive explanations with no theoretical pretensions.

Only enrolments in public education will be considered.

I. PERIOD OF THE THIRD PLAN (See comparative Table 92)

A. Primary Education

1) Nursery and infant classes

It is very difficult to compare enrolments, as in only three cases are figures given for forecasts (1957-58, 1961-62 and 1962-63).

TABLE 92

Comparison (where possible) between forecasts and actual enrolments by type of education for the period of the Third Plan (1956-57 to 1959-60) in public education only

In thousand pupils or students

	Nursery and infant classes	Elementary, special and terminal classes	Special education	Terminal classes	Total (1) Primary	Continuation courses	Classical and Modern Lycées	Technical education (2)	Science (3)	Humanities (3)	Law (3)	Medicine (3)	Pharmacy (3)	Total (3) Faculties
- 1956-1957														
Actual enrolments	1,073.4	4,405.9	52.2	682.1	5,500	303	512	-	41.7	42.7	34.2	26.95	7.4	153.2
- 1957-1958														
Forecasts	1,102	4,661	-	-	5,763	309	534	180	4,415	44.05	35.3	27.7	8.2	159.8
Actual enrolments	1,097	4,564.8	55.7	703.5	5,662	351.7	572	187.7	50.2	44.1	30.9	27.9	7.5	160.6
Percentage difference	-0.5	-2.1	-	-	-1.8	13.8	7.1	4.3	12.9	0.1	-12.5	0.6	- 8.2	0.5
- 1958-1959														
Forecasts	-	-	-	-	-	-	600	205	49.2	46.3	39.5	29.5	8.8	173.3
Actual enrolments	1,094	4,747	62	730	5,919	410.2	630	217.6	57.7	47.2	30	28.8	7.7	171.3
Percentage difference	-	-	-	-	-	-	3.3	6.1	17.3	2.1	-24.1	-2.6	-12.3	-1.1
- 1959-1960														
Forecasts	-	4,828	-	-	-	-	674	230	55.3	49.7	41.9	32.1	9.5	188.5
Actual enrolments	1,102	4,907	72	774	6,009	475.2	683	232.7	63.4	53	29.4	28.45	7.7	182
Percentage difference	-	1.6	-	-	-	-	1.3	1.2	14.7	6.6	-29.7	-11.5	-18.9	-3.5
- 1960-1961														
Forecasts	-	-	-	-	-	-	743	255	62.1	53.5	45.7	34.2	10.5	206
Actual enrolments	1,172	4,911	81.2	769.8	6,083	551.5	741.2	255	67	59.7	32.6	27.7	8	195
Percentage difference	-	-	-	-	-	-	-0.2	0	7.9	11.6	-28.7	-19	-23.8	-5.3
- 1961-1962														
Forecasts	1,200	4,880	-	-	-	-	803	280	69.4	58.1	49.85	37.5	11.8	226.5
Actual enrolments	1,221	4,955.7	87	736.9	6,177	627.75	813	273	72	70.2	38.8	34	8.8	223.7
Percentage difference	1.8	1.1	-	-	-	-	1.2	-2.5	3.7	20.8	-22.2	-9.4	-24.5	-1.2
- 1962-1963														
Forecasts	1,250	-	-	-	-	485	850	305.5	76.1	62.1	53.8	41.8	12.6	246.4
Actual enrolments	1,306.9	4,976.8	84	723.7	6,284	714.7	892	307.3	84.4	86.3	45.9	34.4	9.5	260.6
Percentage difference	4.5	-	-	-	-	47.4	4.9	0.6	10.9	38.9	-14.6	-17.6	-24.4	5.8
- 1963-1964														
Forecasts	-	-	-	-	-	-	891	330.5	87.5	64.7	57.2	46	13.95	266.4
Actual enrolments	1,358.5	4,928.2	89.5	702	6,286.7	875.4	1,017	335.3	97.9	97.9	57.9	38.5	10.1	302.3
Percentage difference	-	-	-	-	-	-	14.1	1.5	11.8	51.4	1.2	-16.3	-27.5	13.5
- 1964-1965														
Forecasts	-	4,608	-	-	-	-	-	-	94.4	68.7	62.5	51.3	15.3	292.3
Actual enrolments	1,435.8	4,947.7	100.8	710	6,383.5	759.2	1,070	-	106.3	112.75	69.25	41	11.5	340.8
Percentage difference	-	7.4	-	-	-	-	-	-	12.6	43.7	10.8	-20.1	-25	16.6

Source: Service central des Statistiques et de la Conjoncture, Ministry of Education; and Report of the Third Plan.

Notes:
1) Primary education = nursery and infant classes, elementary classes, special education and terminal classes.
2) Technical education = national vocational schools, technical secondary schools, technical sections of lycées and specialised branches of the continuation courses.
3) Includes registered and non-registered French students.

The forecasts are based on the trend of the population factor and the enrolment rates by age group. The latter are already very high and show a tendency to increase in terms of the growth of intake capacity(1) (without this constraint the rate would be nearly 100 per cent).

Whereas actual enrolments remained at a standstill until 1960, growth afterwards was almost linear (about 66,000 annually). Forecasts based on the previous tendency accordingly differed from reality. Of the three disparities recorded, two indicate that the forecasts have been exceeded. Two reasons for this can be suggested: first, there are no forecasts on migration and, secondly, there has been an increase in the enrolment rate as a result of the construction of large urban complexes, the cultural evolution and women's participation in production. This surplus was re-absorbed by an increase in the number of pupils per class.

2) Elementary, special and terminal classes

The effect on elementary education of the post-war population bulge came to an end about 1960. The difference was negative at the beginning of the Plan but became positive in 1959-60 and by 1964-65 amounted to 7.4 per cent; performance was therefore higher than the forecasts for most of the period. Since the forecast related to the three types of education combined, it is not possible to consider them separately. In elementary education during this period there is a reduction in the number of children of school age and a decline in pupils belonging to other age groups (increase in pre-school education and introduction of transitional sections in the first cycle of secondary education, which should have reduced the number of pupils repeating elementary classes).

But a study of the subsequent trend shows that the figures for enrolments in special education and the introduction of transition classes lagged far behind the forecasts.

Since enrolments in the terminal classes were much higher than in the forecasts this may be the essential difference.

B. Secondary Education

1) Cours complémentaires (continuation courses)

The three differences recorded are considerable, namely 13.8 in 1956-57, 37.4 in 1961-62 and 47.4 in 1962-63. The growth of enrolments was twice as fast as expected in the forecasts. This difference seems to prove that the impact of the new regulations on entry into "6e" was under-estimated, as were the effects of developing the specialised sections(2), which greatly increased the enrolment rate. The surplus could be absorbed because of the adaptability of this type of education (use of elementary terminal class-rooms and primary teachers).

2) Classical and modern lycées

There was very little difference between actual enrolments and forecasts for the period of the Plan itself (about 1 per cent), but there appears to be a big difference

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1) See Book I, Introduction.

2) Pre-vocational and vocational education at short technical level given in the continuation courses after two years' general education; these courses were called Collèges d'enseignement général (CEG) in 1960 and after 1963 the specialised sections were moved back two years following the introduction of the first cycle (general) of secondary education.

at the beginning (7.1 per cent) and at the end (14.1 per cent) of the forecast period. In the first case, the arrival of the population "bulge" in 1957-58 might provide an explanation, since the enrolment rates were calculated by extrapolating the trend over the previous ten years. The second difference is probably due to the unforeseeable flow of repatriates from Algeria in 1963-64.

3) Long and short technical education

The differences are relatively small and decrease at the end of the period. A possible explanation may be the gradual introduction of the specialised sections and technical secondary schools(1), on which the growth of enrolments was based. But since the forecasts make no distinction between long and short technical education, any comparison is pointless.

C. Higher Education

The slight differences in total university enrolments show that actual enrolments fall short of the forecasts for the period of the Plan and exceed them at the end of the forecasting period. Only the differences corresponding to the Plan period should be considered, since the reforms between 1961 and 1965 were not taken into account in the forecasts.

The differences shown under total enrolments relate only to aggregates for each field of study. The figures for science and humanities are much higher than in the forecasts, viz. science +12.9 per cent at the beginning of the Plan and +7.9 at the end, humanities +0.1 at the beginning and +11.6 at the end. On the other hand, in medicine and pharmacy forecasts are higher than performance for the entire duration of the Plan and the forecasting period. These forecasts by disciplines, calculated from past trends, are only indicative and in the case of the Third Plan the overall forecasts are more reliable.

D. Conclusions

Generally speaking, the figures for the period of the Third Plan and the forecasting period at all educational levels were higher than the forecasts (except in law, medicine and pharmacy at higher level).

One of the reasons for these differences is the methodology since the forecasts were established on the basis of unchanged structures, on very general figures and on linear extrapolations of past trends taking no account of migration nor of the impact of the increasingly rapid growth of enrolments.

II. PERIOD OF THE FOURTH PLAN (see comparative table 93)

A. Primary Education

1) Nursery and infant classes

In the forecasts the growth of enrolments from 1961 to 1965-66 follows the population curve, with an almost constant enrolment rate. The trend of actual enrolments however is linear, so that the forecasts are increasingly exceeded, viz. by 3.7 per cent in 1960-61 and 21.8 per cent in 1966-67.

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1) See Book II, Part One, Title 1, Chapter II.

Despite a fall in the number of children of school age, there was first an increase in the enrolment rate which, for similar reasons as in the period of the Third Plan, led to a lowering of the average age of entrance into the nursery class; secondly, the unexpected arrival of repatriates from Algeria led to an additional 21,300 pupils in 1962-63.

2) Elementary classes

Instead of declining as expected, enrolments remained stable. The differences were relatively small and almost constant for the last five years (1.6 per cent in 1961-62 and around 4 per cent between 1963-64 and 1967-68).

The reasons are obvious:

- as special education developed more slowly than expected there were twice as many handicapped children in elementary education than forecast;

- the delay in the introduction of transition classes increased the number of repeats in elementary education;

- lastly, in October 1962, 78,000 additional unexpected pupils arrived, repatriated from Algeria.

3) Special classes

As in the Third Plan, actual enrolments were well below the forecasts, namely -21.6 per cent in 1962-63 and -46.9 per cent in 1967-68, owing to inadequate intake capacity. The forecasts for this type of education were already very theoretical in the Fourth Plan (linear projection of the trend noted at the time the Plan was being prepared) and were already well below real needs with a target of 5 per cent of the 6 - 14 year age group in 1970. The real growth of intake capacity was far below the forecasts and the structural reforms envisaged at this time tended to promote the expansion of this type of education.

4) Transition classes in the lycées and CEG's and terminal classes in primary education

Actual enrolments exceed the forecasts by an increasing percentage, although the terminal classes were due to be phased out and enrolments should be absorbed into the observation cycle of secondary education. The rate of their phasing out is related to the introduction of the observation cycle for which the forecasts were much higher than the enrolments recorded.

B. Secondary Education

1) Observation cycle

In the first three years of the period the difference is practically nil (0.3 in 1961-62; -0.5 in 1962-63; and -0.6 in 1962-1963) although subsequently it increases considerably (-3.3 in 1963-64 and -6.9 in 1965-66).

This was mainly due to the delay in establishing this cycle in the CEG's, the transfer of pupils from the terminal classes thus being slower than expected.

2) Beyond the observation cycle: classical modern and technical education from "4e" to terminal classes

The breakdown between long and short education had been projected as follows: 63 per cent for long and 37 per cent for short. The actual distribution was appreciably the same and the forecasts for secondary education as a whole are quite close to reality despite the arrival of 52,300 repatriated pupils.

TABLE 93

Comparison between forecasts and actual enrolments by type of education for the period of the Fourth Plan (1960-61 to 1964-65) in public education only

In thousand pupils or students

YEAR	Nursery and Infant classes	Elementary classes	Special education	Total primary education (1)	Transitional and terminal classes	Observation cycle (2)	Short general education (3)	Short vocational education (4)	Long classical, modern and technical education (5)	Science	Humanities	Law	Medicine	Pharmacy	Total Faculties
1960-1961															
Forecasts	1,130.4	4,100.2	81	5,312.6	775.8	610	380	204	611.7	73.5	57.[illegible]	18.7	17.6	7.7	187.7
Actual enrolments	1,172	4,060	81.[illegible]	5,313.2	769.8	612	355.1	205.1	613.7	67.7	52.7	22.4	17.7	8.0	[illegible]
Percentage difference	3.7	-1.0	-1.0	-	-0.8	0.3	-6.7	-	1.3	-7.8	14.4	17.8	0.5	4.8	[illegible]
1961-1962															
Forecasts	1,160	4,068.7	111	5,339.7	719.8	661	442	222	692.1	79.3	59.7	38	34.3	8.5	211.8
Actual enrolments	1,221	4,131.8	87	5,439.8	736.9	664.1	439.1	218.5	691.3	74	70.1	38.6	34	8.8	223.7
Percentage difference	5.3	1.6	-21.6	1.9	2.4	0.5	-0.7	-1.6	1.0	-7.2	17.6	[illegible]	-1	3.4	5.6
1962-1963															
Forecasts	1,189.6	4,029.5	136.1	5,355.2	690.3	714	478	244	765.3	90.4	64.3	34.8	36.5	9.7	235.1
Actual enrolments	1,306.2	4,164.1	84	5,566	723.7	708.6	501.1	252	808.5	84.4	86.2	45.2	34.4	9.95	260.6
Percentage difference	9.7	3.3	-38.3	3.8	4.8	-0.8	4.3	3.3	5.2	-6.7	34.2	31.9	-5.8	2.7	10.7
1963-1964															
Forecasts	1,217.8	4,004.9	158.6	5,381.3	650.3	760	529	265	840.6	101	61.1	38.6	37.5	10	256.2
Actual enrolments	1,358.5	4,136.7	89.5	5,584.7	702	735	560.8	275.4	859.2	97.9	97.9	57.2	38.4	10.1	301.35
Percentage difference	11.6	3.3	-43.6	3.8	11.4	-3.3	6.0	4.2	2.2	-3.1	61.2	50.2	1.1	0.5	18.0
1964-1965															
Forecasts	1,258.8	3,987.3	184.3	5,410.4	584.3	804	568	293	868.6	117.2	77.6	45.4	40.5	11.3	291.5
Actual enrolments	1,455.8	4,136.5	100.8	5,673.5	710	761	[illegible]	311	[illegible]	106.9	118.75	67.25	41	11.5	345.3
Percentage difference	15.9	3.8	-45.3	4.9	21.5	-5.3	5.5	6.1	4.3	-9.3	48.3	50.5	1.3	1.5	18.1
1965-1966															
Forecasts	1,277.5	3,965.2	208.9	5,411.6	571.8	849	599	316	965.8	156.9	86.6	51.7	44	13	352.2
Actual enrolments	1,507.2	4,146.95	111.1	5,752.25	738	795	[illegible]	341	894	114.8	113.2	78.5	41	12.65	360.3
Percentage difference	18.0	4.6	-46.8	6.4	29.1	-6.4	6.7	7.9	-6.8	-26.8	30.7	51.8	-6.8	-2.7	2.3
1966-1967															
Forecasts	-	3,927	234.8	-	-	873	625	341	1,020.7	154.2	94.9	56.2	47.45	14.5	367.2
Actual enrolments	1,590.7	4,136	124.7	5,860.4	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	5.3	-46.9	-	-	-	-	-	-	-	-	-	-	-	-
1967-1968															
Forecasts	-	3,880	260.5	-	-	890	651	367	1,062.5	168	102.3	61.1	50.7	16	448
Actual enrolments	1,689	4,145	140	5,968	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	6.5	-46.3	-	-	-	-	-	-	-	-	-	-	-	-
1968-1969															
Forecasts	-	3,834	282.5	-	-	900	677	386	1,095	186.3	108.8	67.4	51.4	17.3	471.3
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1969-1970															
Forecasts	-	3,767	313.4	-	-	908	642	399	1,124.4	190.7	114.75	71.2	51.7	18.6	446.[illegible]
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1970-1971															
Forecasts	-	3,695	333.4	-	-	918	600	406	1,151.7	-	-	-	-	-	-
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sources: Central Economics and Statistics Department, Ministry of Education; and Report of the Fourth Plan.

Notes:

1) Including nursery and infant classes, elementary and refresher classes.

2) The observation cycle covers the "6e" and "5e" together in lycées, CEG's and technical lycées.

3) Last two years only.

4) Available in technical secondary schools and lasts three years after completion of the "5e".

5) Groups all long courses from "4e" to "terminal" classes. As an indication, the trend of long general education ("4e" to "terminal") was as follows: 1960-61 to 1966-67: 250.1; 284.6; 334.5; 372.2; 402.3; 410.3; and 433 in 1966-67. The trend of short technical education ("4e" to "terminal") over the same period was: 76; 97.3; 109; 134.5; 155.7; 166.1 and 172.3 in 1966-67.

There is very little difference between actual enrolments and the forecasts, i.e. $0.6 < E < 5.2$ (2 per cent average). In the forecasts the distribution between general and technical education was related to desired objectives. The overall forecast was based on the extraploation of trends. It will be noted that the introduction of the two-year observation cycle has made little change in the conditions for admission into long secondary education.

a) Short general education ("4e" and "3e" classes in CEG's and "3e" in special establishments)

The results are fairly near the forecasts ($-0.7 < E < 6.7$), although slightly higher. Moreover, the breakdown between short general and vocational education agrees with the forecasts (51 per cent for vocational and 49 per cent for general).

b) Short vocational education (technical secondary schools, practical sections of lycées and half the vocational sections of the CEG's)

Here, too, the differences are rather slight and range from 0 to 7.9.

c) Long education

As regards long education, it is particularly important to consider the trend of differences in general and technical education separately.

The forecasts predicted a doubling of technical education enrolments in five years and an increase of under 50 per cent in general education, whose share of the total declined from 70 per cent to 60 per cent at the end of the period.

In fact, performance exceeded the forecasts in general education but fell short in technical and vocational education. The differences between the forecasts and actual figures were relatively slight for long education as a whole so that the excess offset the shortfall.

This observation is confirmed by comparing the following percentage distribution between general and technical education (forecast and actual):

TABLE 94

Comparison of the percentage distribution of enrolments in long general and technical education

Year	Technical and Vocational		General	
	Actual	Forecasts	Actual	Forecasts
1960-61	23.3	28.7	76.7	71.3
1961-62	23.5	30.0	76.5	70.0
1962-63	24.6	31.4	75.4	68.6
1963-64	26.5	32.8	73.5	67.2
1964-65	27.9	34.2	72.1	65.8
1965-66	28.2	35.7	71.8	64.3
1966-67	28.4	37.0	71.6	63.0

The basic reason for these differences is no doubt to be found in the restrictions imposed on the Commission's proposals regarding equipment needs in technical education, for growth was quite substantial compared with the Third Plan period.

C. Higher Education

Actual enrolments as a whole are higher than the forecasts, the differences ranging from 3.4 per cent in 1960-61 to 8.7 per cent in 1965-66 and reaching a maximum of 18 per cent in 1963-64, probably due to external migrations.

The trend by field varies. In science the arbitrary forecasts were ambitious and far exceeded reality (-7.6 in 1960-61 and -16.1 in 1965-66). An equipment drive is not sufficient to promote an increase in enrolments and change educational behaviour.

This shortfall in higher scientific education may be related to the trend in the percentage of baccalauréat holders in the elementary mathematics series, which from 1956 to 1962 was as follows:

1956:	25.5 per cent
1960:	34.3 per cent
1961:	32.1 per cent
1962:	29.9 per cent

On the other hand, actual enrolments in humanities and law greatly exceeded the forecasts. In medicine and pharmacy there were very slight differences, one way or the other. Table 95 compares the forecasts and actual enrolments of faculty students by field of study in 1965-66.

TABLE 95

Comparison between forecasts and actual enrolments of faculty students by field of study in 1965-66

Field of Study	Forecasts		Actual Figures	
	Enrolments	Percentage	Enrolments	Percentage
Law	55,990	16.3	85,562	21.9
Science	114,360	39.3	122,428	31.3
Medicine	50,560	13.6	47,784	12.2
Pharmacy	14,515	3.9	13,676	3.4
Humanities	97,910	26.9	121,993	31.2
Total	337,335	100.0	391,245	100.0

Source: Rapport d'exécution du IVème Plan (Report on the implementation of the Fourth Plan).

This period bears the main incidence of the "bulge", which is partly responsible for the differences as the more rapid growth of enrolments reduces the confidence interval of assumptions based on past trends.

Moreover, the method used (pattern of enrolment) implies continuity of the system, which was not the case. Finally, the arbitrary aspect introduced into the forecasts by field when the conditions for attaining the objectives were not fulfilled brings out the weakness of forecasts not integrated into global educational planning.

As in the Third Plan, actual enrolments were on average greater than the forecasts at almost all educational levels.

The differences in the age groups covered by compulsory education are small (though special education, the terminal classes and the observation cycle react on each other and form a special case) but tend to become greater, according to the type of education, in the second cycle of secondary education and higher education. There are several possible explanations for these differences:

- the forecasting methods are based too much on the structural continuity of the system,

- on the other hand, some objectives which aim at overcoming this tendency are unrealistic in view of the limitations of the Plan itself,

- finally, certain reforms were introduced when the Plan was in course of implementation (Fouchet Plan) which the Commission had not been able to take into account.

III. PERIOD OF THE FIFTH PLAN (see comparative Table 96)

A. Primary Education

1) Nursery and infant classes

At this level, as for all the others, the comparison relates to only three observations.

The differences are very small, namely 0.1 in 1965-66, -1.0 in 1966-67 and -2.1 in 1967-68. The main reason is probably the sudden and unexpected growth of the birthrate after 1963-64 and a larger increase in the enrolment rate than expected, owing to internal migration.

2) Elementary classes

The differences are slight, ranging from 0.7 to 1.5 per cent. The forecasts are based on population growth (compulsory education). The school-age population was in fact underestimated for the enrolment rate, for the six to ten year age groups is lower than forecast in 1967-68. Moreover, the high rate of repeat continued (50 per cent of the pupils are at least a year behind in the second year intermediate course).

3) Special education

There was an improvement in the forecasts for the Fifth Plan as compared with previous Plans, but nevertheless the actual figures are still short of the forecasts (-13.4 per cent in 1965-66) and the gap is widening rapidly.

4) Terminal classes

Actual enrolments are decreasing more rapidly than expected. Since the trend is the same as in the first cycle of secondary education, the reason cannot be a change in orientation. It is likely that more pupils left school after fourteen than was expected (the extension of compulsory schooling came fully into operation only in 1968-69).

TABLE 96

Comparison between forecasts and actual enrolments by type of education during the implementation of the Fifth Plan (1965-66 to 1970-71) in public education only

In thousand pupils or students

YEAR	Nursery and Infant classes	Elementary classes	Special education	Terminal classes	First cycle (1)	First cycle level vocational education (2)	Short second cycle	Long second cycle	Science (3)	Humanities (3)	Law (3)	Medecine (3)	Pharmacy (3)	I.U.T. (3)	Total Faculties and Institutes(3)
1965-1966															
Forecasts	1,506.0	4,113.1	128.3	607.0	2,373.6	267.6	388	580.4	-	-	-	-	-	-	-
Actual enrolments	1,507.2	4,140.95	111.1	574.2	2,337.0	262.0	370	567.0	125.55	137.0	86.7	50.6	13.8	-	413.75
Percentage difference	0.1	0.7	-13.4	-5.4	-1.5	2.2	-4.6	-2.2	-	-	-	-	-	-	-
1966-1967															
Forecasts	1,583.9	4,109.5	149.3	562.0	2,454.2	274.0	428	606.9	-	-	-	-	-	-	-
Actual enrolments	1,599.7	4,136.0	124.7	515.0	2,332.0	260.0	388	584.0	129.4	158.65	100.0	54.5	15.2	1.6	459.50
Percentage difference	1.0	1.1	-24.6	-8.4	-5.0	-5.1	-9.3	-8.8	-	-	-	-	-	-	-
1967-1968															
Forecasts	1,633.0	4,077.0	170.7	492.0	2,560.3	246.1	442	629.4	-	-	-	-	-	-	525.00
Actual enrolments	1,688.0	4,140.0	140.0	451.0	2,427.0	273.0	427	577.0	136.9	167.35	109.7	62.3	17.8	5.4	499.40
Percentage difference	2.1	1.5	-18.0	-8.3	-5.2	11.0	-3.4	-3.3	-	-	-	-	-	-	-5.0
1968-1969															
Forecasts	1,735.7	4.060.0	187.8	415.0	2,674.9	198.0	451	647.6	-	-	-	-	-	-	-
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1969-1970															
Forecasts	1,817.5	4,033.2	209.2	335.0	2,671.9	148.0	460	667.2	-	-	-	-	-	-	-
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1970-1971															
Forecasts	1,897.6	4,004.5	230.3	225.0	2,670.1	98.0	471	690.1	-	-	-	-	-	-	-
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1971-1972															
Forecasts	1,979.6	3,972.4	256.4	103.0	2,679.1	69.7	481	714.5	-	-	-	-	-	-	-
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	--	-	-	-	-	-	-	-
1972-1973															
Forecasts	2,068.6	3,943.4	282.4	0	2,680.6	37.0	490	742.1	226.3	172.6	110.1	67.0	21.4	167.7	765.00
Actual enrolments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percentage difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sources: Central Economics and Statistics Department, Ministry of Education and Report of the Fifth Plan.

Notes:

1) Includes "6e" to "3e" classes, terminal classes and first cycle vocational education.

2) Includes first two years of 3-year CET's vocational sections of the lycées and about half the specialised sections of CEG's.

3) Includes faculties, institutes and IUT (University Institutes of Technology).

B. Secondary Education

1) First cycle

The differences for the three years considered are negative and show that actual enrolments fell short of the forecasts by -1.5 per cent in 1965-66 and 1966-67 and -5.2 per cent in 1967-68. This may be partly because of drop-outs after 14 and 15, as in the terminal classes. The assumptions used in the forecasts were: extended compulsory education (15 years in 1967-68 to 16 years in 1968-69) and introduction of new educational structures (phasing-out of terminal classes and specialised sections of the CEG and setting up of the new CET).

But it is possible that the raising of the school-leaving age has not yet had its full effect, while the establishment of the new structures (in particular the new CET) did not keep in line with the forecasts; accordingly, the old channel (primary terminal and 3-year CET) had more pupils than anticipated.

2) Long second cycle

As for the first cycle, the forecasts were not attained: -2.2 per cent in 1965-66, -3.8 per cent in 1966-67 and -8.3 per cent in 1967-68. This may perhaps be explained first by the growth in baccalauréat successes in 1967 which led to a decrease in repeaters in the terminal classes and, secondly, by the abolition of the Brevets d'enseignement technique (two years) in long technical education which is the reason for the reduction in the promotion rate from "3e" to "2e". On the other hand, if we consider only the three-year course, the enrolment rate keeps in line with the forecasts. Separate forecasts for general and technical education were not made apart from a percentage breakdown for 1972-73 (65 per cent general and 35 per cent technical). In 1964-65 the breakdown was 73 per cent and 27 per cent respectively. The tendency does not seem to move appreciably towards the forecast, since the breakdown in 1966-67 was 71.8 per cent for general and 28.4 for technical education.

3) Short second cycle

There are very big discrepancies here: -10 in 1965-66, -16.9 in 1966-67 and -21.4 in 1967-68. They are partly caused by the situation in the first cycle, and are logical in view of the fact that the short second cycle is drawn from the "3e". However, it is a particularly worrying situation since not only do the old structures persist but enrolments are increasing. The enrolment rate for the first year of the new courses is only 6.9 per cent for all public and private education and is increasing too slowly for there to be any likelihood of attaining the Plan's objective of 40 per cent.

C. Higher Education

The overall trend is almost the same as the forecasts, but unfortunately there are no forecasts by field except for the horizon year and the only global forecasts are for 1967-68. At present there is a slight shortfall.

The distortions are much greater for the internal breakdown of enrolments:

- At IUT level the Plan forecast that in 1972-73 168,000 students, i.e. 25 per cent, would be enrolled in the humanities, law and science, which would account for 21.9 of total students. In 1967-68 only 5,379 students were enrolled in the IUT's, i.e. 1.1 per cent of the total (amounting to only 7.9 per cent if students from the higher technical classes attached to the technical lycées and the primary teacher training colleges are included). However, as and when the IUT's are established, the situation at this level may change rapidly owing to potential demand.

- The second distortion is the breakdown of enrolments between the humanities and science.

Whatever the subsequent development of the IUT's, the forecasts will probably be largely exceeded in the humanities but will not be attained in science. This development, moreover, is similar to that noted in the Fourth Plan (see Table 97).

This is therefore a relatively deep-rooted tendency that cannot be reversed merely by arbitrary forecasts. It may partly be explained by the relationship between the number of baccalauréat holders in the preceding year and new faculty entrants (Table 99).

Baccalauréat holders are classified in the science series (elementary mathematics, experimental and mathematical sciences and technical subjects) and in the humanities (philosophy and economics). Faculty entrants are classified as students of humanities (letters, law and economics) and science (science, medicire and pharmacy). Table 99 shows the trend since 1960.

TABLE 97

Rate of growth of enrolments by field of study compared with 1960 and the previous year

Year	Law		Medicine		Pharmacy		Science		Humanities		All disciplines	
	Compared with 1960	Compared with previous year	1960	Previous year	1960	Previous year	1960	Previous year	1960	Previous year	1960	Previous year
1960-61	100	-	100	-	100	-	100	-	100	-	100	-
1961-62	114	114	118	118	107	107	111	111	116	116	114	114
1962-63	135	114	123	101	117	109	129	115	134	111	131	107
1963-64	159	113	130	103	124	106	148	110	163	114	151	111
1964-65	194	117	134	95	143	114	161	95	188	107	169	111
1965-66	229	116	136	108	158	110	179	109	210	107	190	112
1966-67	262	106	156	114	175	110	183	100	241	107	211	110

Source: C. Grignon and J.C. Passeron, Innovation in Higher Education - French Experience before 1968. OECD, 1970.

TABLE 98

Breakdown of new entrants according to faculty

	Law	Humanities	Science	Medicine	Total Faculties
1960-61	15.6	34.2	37.9	12.3	100 = 44,970
1967-68	23.4	36.5	23.0	17.2	100 = 105,116

Source: Central Department of Economics and Statistics, Ministry of Education "Les Etudiants en France", Etude No. 12, 1968 ("Students in France", Study No. 12, 1968).

TABLE 99

Trend in relationship between baccalauréat holders and new entrants in humanities and science faculties

Year of obtaining baccalauréat	1960	1961	1962	1963	1964	1965	1966	1967 (a)
University year	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
RATIO								
New entrants in Humanities Faculties (t)/ Baccalauréat holders (humanities) (t-1)	0.95	1.07	1.18	1.23	1.18	1.23	1.21	1.14
New entrants in Science Faculties(t)/ Baccalauréat holders (science) (t-1)	0.69	-	0.80	0.77	0.74	0.71	0.64	0.60

Source: Central Department of Economics and Statistics, Ministry of Education, "Les Etudiants en France", Etude No. 12, 1968.

(a) Provisional statistics.

We observe that the student intake in the humanities is higher than the number of baccalauréat holders in that section, whereas the value of the second relationship tends to decrease steadily. This is the result of a de facto situation, namely that the secondary courses followed in the humanities largely predetermine the type of higher education which such students will be likely to follow later, whereas this is not the case for science students. As is known, the proportion of science baccalauréat holders in the total has been decreasing for several years.

More definitely than in the Fourth Plan, the forecasting approach was to fix objectives, by estimating desirable enrolment rates, in terms of current structural reforms and assessments of future manpower needs. The differences are therefore the result of an underestimation based on unrealistic assumptions of pupils' attitudes towards the new structures (for instance, short technical education) and the possibilities of resistance to change in the system itself. The best examples of this are the case of the IUT's and science faculties in higher education and the pupils' behaviour on completing the primary course, when instead of following the desired direction (first cycle/two-year CET) they mostly continue along the old stream (terminal classes/ three-year CET).

The Fifth Plan,more than the others, deals with the problem of the functional link between the normative forecasts, the policy choices which underlie them and the means used to achieve them.

IV. CONCLUSION

In the period covered by the Third and Fourth Plans the differences between actual enrolments and forecasts follow the same trend with a general tendency for the forecasts to be exceeded. However, in the Fifth Plan the tendency seems to be reversed and the real figures are generally below the Plan's targets.

In the first period there are roughly two kinds of reasons for the differences, namely:

- methodological: the forecasts were made on the basis of linear extrapolations of past tendencies, assuming the structural continuity of the system, whereas this was being modified by reforms already initiated or the faster growth of enrolments. When adjustments were made, the resistance and inertia of the old system were not taken sufficiently into account;

- Political: the forecasts do not reflect general qualitative choices of educational policy and give rise only to equipment and budget proposals which the authorities modify in the light of criteria that scarcely seem to correspond to qualitative educational objectives; finally, the implementation of the specific projects approved does not generally tally with the timetable of equipment credits granted (Third and Fourth Plans).

These general explanations seem to apply more clearly to the forecasts of the Fifth Plan. On the one hand, the forecasts in many cases become targets based on vague estimates of future manpower needs and desired educational reforms. Here we note the absence of any link between the objectives fixed and the means at the disposal of the forecasting agency which confines itself to making equipment proposals (even if they are for new structures), apparently in the implicit belief that investment projects are going to change the behaviour of the age groups, integrate educational reforms and transform an old situation. This is forecasting in isolation, unrelated to any overall approach to educational planning, with the result that in the end the factors of resistance to change tend to prevail.

Finally, despite an appreciable improvement in forecasting techniques in the three Plans (pattern of enrolments and method of enrolment rates in the Fifth Plan), the approach is still highly empirical and fragmented.

The differences are partly due to lack of any connection between the various forecasts (enrolments, manpower needs, equipment, teachers, scholarships and wages) and partly to the use made of the statistical data(1).

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1) Sources used:

I. Forecasts

Reports of the Commissions for School, University and Sports Equipment for the Third, Fourth and Fifth Plans.

II. Actual enrolments

1) Statistical data.
2) Ministry of Education tables.
3) Rapport sur les projets de la loi de finances pour 1965, Assemblée Nationale No. 1.106 (Report on drafts of the 1965 Finance Act. National Assembly No. 1,106). (Series on short education and the whole of long education.)
4) Data supplied by the Central Economics and Statistical Department (series on long general and technical education at second-cycle level).

Chapter III

IMPLEMENTATION OF THE PLANS FOR HANDICAPPED CHILDREN

In this sector the proportion of expenditure directly borne by the state is 80 per cent.

I. THIRD PLAN 1957-1961

A. Forecasts

1) Enrolments

The estimated enrolments were based on a survey carried out in 1957. Handicapped children of all categories amounted to 500,000, aged from 6 to 14 (age group corresponding to the primary cycle) and 150,000 adolescents from 14 to 17-18. This was a fairly rough estimate as the available documents showed no breakdown of handicaps, of which there was a wide range even in the case of children attending state schools.

2) Premises

TABLE 10C

Premises available at the beginning of 1957 to receive handicapped children

Categories	Number of Classes	Number of pupils enrolled(1)
Mental deficiency	1,807	38,850
Sensory deficiencies	107	2,300
Physical deficiencies	69	1,483
Children in weak health	878	18,877
Total	2,861	61,510

Source: Report by the Commission for School, University and Sports Facilities under the Third Plan.

Note: 1) The average number of children per class was 21.5

A considerable proportion of these classes were for boarders. This was not likely to foster the development of the children whose difficulties rarely require them to be removed from their family environment. The number of classes available in primary and secondary education was not known.

To satisfy the above requirements 19,000 classrooms would have had to be built which would have enabled a further 408,500 to be enrolled with an average of 21.5 per class.

Under the Third Plan, however, provision was made for only 280 classrooms per year of which 70 per cent were reconverted. This represented a total of 1,400 classrooms enabling an additional 30,100 pupils to be enrolled.

In addition to these general plans an effort was made to provide classes for children of over 14 for whom the accommodation deficit was considerable and to develop boarding schools for physically handicapped children and state boarding schools in the primary cycle for non-sedentary children.

3) Teachers

There were two special teacher training centres at the beginning of the Third Plan with the following capacity:

- the special teacher training centre at Beaumont-sur-Oise with a capacity of 100, training teachers for mentally handicapped children.

- the special teacher training centre at Suresnes with a capacity of 40, training teachers for open-air schools.

The Third Plan provided for the development of these training institutes and in particular the enlargement of the Suresnes centre and the creation of four other centres at Paris, Lyon, Lille and Toulouse, as these special primary classes could only be opened if there were sufficient teachers. The members of the Commission du Plan also recommended the development of observation centres.

B. Implementation

1) Enrolments: data not available.

2) Premises

As of 1st January 1962 there were 4,550 classes representing an increase of 1,699 when compared with 1957. The estimates of the Plan were therefore respected quantitatively although the accommodation provided still fell far short of real needs. No breakdown is available as regards accommodation for children over 14.

3) Teachers

The achievements of the Third Plan were as follows: the capacity of the special training centre at Beaumont-sur-Oise was increased from 100 to 180 trainees and the capacity of the Suresnes centre from 40 to 90.

Mention should also be made of the creation of a training centre for instructors at the boarding establishment at Viazec (Lot department).

The number of teachers trained under the Third Plan was well short of the objectives.

II. FOURTH PLAN 1962-1965

A. Forecasts

1) Enrolments

The increase in enrolments of handicapped children of school age was envisaged as follows:

TABLE 101

Estimated enrolments in schools for handicapped children

(in '000)

Year	State Schools	Private Schools
1961-62	111.0	21.1
1962-63	136.1	25.3
1963-64	158.6	29.1
1964-65	184.3	33.3
1965-66	208.9	37.2
1966-67	333.4	-

Source: Report on the implementation of the Fourth Plan.

There are no forecasts for other age groups.

2) Premises

By doubling the financial appropriations it was planned to construct 200 annexed classrooms for handicapped children and to make 2,000 more available in existing premises.

It was also planned to build 30 state primary schools, 17 further training schools (ENP), one school for handicapped children of over 14 (all categories), two boarding schools for non-sedentary children, 10 semi-boarding schools for mentally defective and maladjusted children and 72 independent departmental or communal schools with boarding facilities for all categories of handicapped children.

3) Teachers

Forecasts of trained staff needed for handicapped children enrolled under the Fourth Plan, allowing for an average of 21.5 pupils per class, are shown in the following table.

TABLE 102

Forecasts of staff for handicapped children enrolled for primary education under the fourth plan

Year	Enrolments	Teaching Staff
1960-61	82,000	3,800
1961-62	111,000	5,160
1962-63	163,000	6,330
1963-64	158,000	7,370
1964-65	183,300	8,520
1965-66	208,900	9,720
1966-67	234,800	10,920
1967-68	260,500	12,110
1968-69	282,500	12,670
1969-70	333,400	15,500

Source: Reports by the Commission for School, University and Sports Facilities under the Fourth Plan. These estimates assume an annual average increase of 1,300 in-service teachers.

B. Implementation

1) Enrolments

The enrolment trend in primary schools is rather disappointing.

TABLE 103

Trend in the number of handicapped children enrolled for primary education under the fourth plan for state and private schools

(in '000)

Year	State Education			Private Education		
	Forecasts	Enrolments	Percentage	Forecasts	Enrolments	Percentage
1961-62	111.0	76.8	69.2	21.1	8.8	41.7
1962-63	136.1	84.0	61.7	25.3	9.4	37.1
1963-64	158.6	89.5	56.4	29.1	10.6	36.4
1964-65	184.3	100.8	54.7	33.3	11.5	34.5
1965-66	208.9	111.1	53.2	37.2	12.7	34.1

Source: Report on the implementation of the Fourth Plan.

It will be seen that the enrolments anticipated at the beginning of the Plan were not achieved before the end of the planning period. The authorities were therefore practically a whole Plan behind schedule.

2) Premises

No figures are available regarding the number of premises built. But on the basis of an average of 21.5 pupils per class, about 5,160 classrooms were available instead of the 9,720 which would have made it possible to cater for the 208,900 pupils anticipated. But 4,550 classrooms were already available at the beginning of the Fourth Plan which would therefore appear to have had no more than 610 classrooms to its credit.

3) Teaching staff

The available statistics do not show the actual number of teachers serving in classes for handicapped children under the state system. They show only the number of existing classes taught by a teacher in the state system, and do not specify if the school is state-run or private, or which ministry is concerned (Education, Health, Justice). However, the following figures have been compiled for guidance, on the assumption that a teacher is available for each class whatever his actual qualifications.

TABLE 104

Total number of classes for handicapped children in the state education system

Year	Number of classes
1962-63	4,882
1964-65	6,305
1965-66	6,894

Source: Ministry of Education: Department for Adaptation and Special Education.

It will thus be seen that the available number of teachers falls far short of the existing plans.

It should be added that estimates under the Fourth Plan were very theoretical and consisted of a linear projection of the situation of that time with a view to the enrolment in 1970 of 5 per cent of the 6 - 14 age group.

Although estimates fell far short of actual requirements, the development of special education under the Fourth Plan proceeded far more slowly with a result that many children who needed special attention had to be kept in the normal primary school system. Nevertheless, the substantial and ominous gap between planning and implementation should be interpreted in the light of the reforms which changed the prospects for the education of handicapped children in the course of the period.

III. FIFTH PLAN 1966-1970

Under the Fifth Plan the authorities endeavoured to meet two essential requirements:

- to catch up on their schedule;
- to reorganise the education of handicapped children in the light of the reforms in the rest of the education system, i.e. allow for the raising of the school-leaving age, organise specialised education in the primary sector and build up an education system in the secondary general and technical cycle for children suffering from sensory and motor deficiencies.

A. Forecasts

1) Enrolments

The number of children who could not be enrolled in the normal education system owing to a handicap were estimated as a percentage of the juvenile population ranging from 5 to 19. This population amounted to 12,300,000 (figure supplied by the Institut Nationale de la Statistique et des Etudes Economique - INSEE) and was assumed to remain stable during the period 1965 to 1976.

TABLE 105

Estimation and distribution of pupils in the specialised education system as a percentage of the juvenile population between 5 and 19

Nature of handicap	Percentage of Juvenile Population	Percentage enrolled in the state education system	Numbers awaiting enrolment
Mild mental deficiency	3	3	369,000
Slight mental deficiency with associated disorders	0.55	0.30	36,900
Medium mental deficiency	1	0.35	43,050
Acute mental deficiency	1	-	0
Physical handicaps	0.2	0.1	12,300
Cerebral palsy	0.18	-	0
Amblyopia	0.12	0.1	12,300
Blindness	0.01	-	0
Medium hearing deficiency	0.04	0.03	3,000
Deafness and hearing deficiency with associated disorders	0.06	-	0
Total	6.16	3.88	476,550

Source: Report by the Commission for School, University and Sports Facilities under the Fifth Plan.

2) Premises

The number of places required actually fell short of this total as all the children were not enrolled at the same time. But in view of the limited budget appropriations, a new breakdown was made and the number of places to be provided by categories of schools was shown as follows:

- Annexed primary classes	28,800 places
- CES sections	27,000 places
- Specialised schools with boarding facilities (ENP, lycées, CES)	14,910 places
	70,710 places

3) Teachers

The number of specialised teachers to be trained and recruited was calculated in the light of current building arrears. The number is shown under B below.

B. Implementation

1) Enrolments

For administrative reasons there is no information regarding the exact number of handicapped pupils enrolled in the state education system. In 1967-68 the special state system(1) had only 161,933 pupils.

2) Premises

The following survey of the material implementation of the Fifth Plan is based on action taken in the period 1966-67 and 1968, action under the 1969 budget (120 per cent programme) and estimates for 1970 (125 per cent programme).

TABLE 106

Percentage of material implementation of the fifth plan

Category of school	Number of Places Planned	Number of places financed and awaiting appropriations	Percentage implementation
Annexed primary classes	28,800	15,000	52%
CES sections	27,000	27,000	100%
Specialised schools	14,910	10,046	67%
	70,710	52,046	73.6%

Source: Ministry of Education.

The enrolment procedure naturally took account of the circular of 5th January, 1965, on the school map which defined first cycle sections and second cycle districts. A school map for special education was therefore drawn up for the various types of sectors - urban, rural and mixed - in the light of two principles:

- boarding facilities were reserved for very specific cases (complex or serious disorders, distance from school). The boarding facilities were also classified by types and all have a capacity of 150 pupils and 120 boarders;
- the education of handicapped children should ensure their effective integration into active working life and should include a pre-vocational training in the last few years of their school life consistent with the profile of the existing practical courses in the terminal classes of the primary cycle.

3) Teachers

The achievements of the Fifth Plan are summarised in the following table.

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1) Classes conducted by a teacher from the state education system irrespective of the type of school (state or private) and the ministry responsible.

TABLE 107

Implementation of the fifth plan as regards teachers

Categories of teachers	Number of teachers trained between 1965-1970 inclusive		Number of posts(1) available between 1965 and 1970	Targets of the Fifth Plan
Head teachers		268	201	529
Specialised teachers	8,030			15,500(2)
Psychopedagogical therapists	400	9,391	8,151	740
Psycho-physiotherapists	108			
Teachers in boarding schools	192			3,460
School psychologists	661			1,000
Assistant technical instructors		337	630	2,239
Certified teachers			60	660
Miscellaneous			204	-
Total		9,996	9,246	24,128

Source: Ministry of Education.

1) Assuming that the same number of posts will be available in 1970 as in 1969.

2) This figure includes 11,438 prospective teaching posts; 2,900 represent the the deficit in the number of trained teachers recorded in 1965 and 1,162 represent various "defections".

The percentage implementation is therefore 41 per cent as regards training and 38 per cent as regards the number of posts created. Once again the number of teachers trained falls considerably short of the volume of accommodation provided.

Chapter IV

GRADUAL INTRODUCTION OF MANPOWER REQUIREMENTS INTO ENROLMENT FORECASTS

In the introduction to this part attention was drawn to a certain contradiction arising from the fact that education is considered as one sector among others forming a larger whole, namely the National Economic and Social Development Plan, although in actual fact this sector remained isolated from that whole.

There are several possible reasons:

- first, the size of appropriations for education in the general budget, the state considering education as a spending agent whose claims had to be curbed at medium term (general economic equilibrium) and at short term (balancing public expenditure); this may be a political reason;

- secondly and more technically, the limitations of the objectives aimed at by the Commission for School, University and Sports Equipment strengthened the effect of the previous factor. It was necessary to find some way of meeting the quantitative expressions of a more or less spontaneous educational demand by studying the foreseeable trend of enrolments. These estimates of demand were not accompanied by any specific methodical study of the system's output and the supply of graduates. The fact that the concept of the "balance of the educational sector" was lacking made it impossible in practice to relate educational forecasts and manpower needs (estimated as a whole or by sector of collective activities), which would have liberated education from its isolation and linked it to work life and to the economic and social development of society.

This situation evolved slightly with the implementation of the Fifth Plan, but until 1965 the isolation was almost total. Although the question had been raised as far back as 1958 in the report of the Manpower Commission of the Third Plan (1958-1961), it was not until the Fifth Plan, after slow progress had been made, that a preliminary confrontation between manpower needs and the supply of graduates was achieved within the Occupational Training-Upgrading Intergroup. A study of the work of the Manpower Commissions of the Third, Fourth and Fifth Plans shows how this development occurred.

I. GENERAL REPORT OF THE MANPOWER COMMISSION OF THE THIRD PLAN

Owing to the lack of usable statistics, the general report gave only employment forecasts by sector of collective activity, with some partial data on the probable trend for certain skills. It is a very fragmentary study with many gaps; little is known of employment structures and trends and although an overall balance can be defined, there is practically no information on the conditions of equilibrium by sector or by occupation.

Despite the limited scope of its work, the Commission plainly stated the need to translate employment forecasts into educational terms. The forecasts serve to define an employment policy with two objectives:

- economic: to guide the training of young people towards the demand sectors and to seek means of bridging the gap between more or less specific manpower needs and the natural movement of the labour force population;
- social: to offer young people future outlets; the arrival of large numbers of young people on the labour market, when they reach the stage of choosing an occupation, is a factor of progress or of social crisis, depending on the direction towards which their training has been orientated.

These general considerations led the Commission to make a number of theoretical recommendations on structures and training content which were reconsidered much later in the reforms and cover two points:

- Improvement of vocational guidance: employment equilibrium under the Third Plan was based on a substantial transfer of rural manpower to other sectors. This implied that the young people from the country had been given the necessary training for their employment in another sector.

- Adaptation of the training system to the needs of economic life: apart from practical information on the content of training for certain Certificats d'Aptitude Professionelle, CAP (Occupational Proficiency Certificates), the Commission emphasised the need to take advantage of the extension of compulsory education to begin the necessary adjustment of vocational training to actual working conditions and proposed:

- to improve the recruitment level of vocational training establishments (CET) so that a more thorough general training would result in greater occupational mobility later;
- to lower the period of vocational training for skilled manual and clerical workers from three years to two, so as to reduce both the cost of training, and drop-outs and wastage during the training period.

These recommendations were all the more theoretical since the Commission had practically no means of estimating the future trends of qualifications; they nevertheless showed a concern which was subsequently taken into account.

II. THE WORK OF THE MANPOWER COMMISSION OF THE FOURTH PLAN (1962-1965)

A considerable advance in methodology was achieved by drawing up a table of employment prospects by main categories of qualifications in order to define a vocational training programme.

But many uncertainties are involved in adjusting manpower needs to educational needs. It is difficult to reconcile long-term educational objectives spread over at least nine years with economic objectives, and in particular higher productivity, which relate to a shorter term. Two methods were used to overcome this difficulty, one applicable for the period of the execution of the Plan and the other covering a much longer period with 1975 as the horizon year.

A. Method Applicable for the Plan's Duration

The method was to use the employment projections by groups of collective occupations, broken down by qualification levels and defined in terms of occupational categories, in order to determine a probable trend of qualifications. These estimates, based on the assumption that requirements of qualified manpower would not increase any faster than during the reference period (1954-1962), did not allow for deficits and applied only to the industrial sector (crafts, agriculture and services being excluded). This is the definition of a presumed minimal situation in terms of an explicit development of production and productivity.

B. Method Applicable at Longer-term

The active population was broken down into six qualification levels defined in terms of the length of the training required (after the observation cycle, i.e. "5e"). Table 108 shows the equivalence with the occupational categories.

These qualification scales were then divided into twenty branches of activity in the secondary sector (one-third of the labour force population).

The projections were made by comparing the present reserves, the long-term trend in projected stock by occupational category and the available training facilities. This gives a much more implicit(1) and general picture of the desirable breakdown of the labour force population by training level. This second method makes it possible to discern far larger requirements of highly qualified manpower and to ascertain the order of magnitude of future vocational training requirements and the extent of increases in skills.

TABLE 108

Equivalence between Occupational Categories and Qualification Levels (a)

Level	Average no. of years of study	Occupational Category
I	11	Commercial and administrative executives - engineers
II	9	Commercial and administrative executives - engineers
III	7	Commercial and administrative executives - industrial designers
IV	5	Foremen - clerical workers
V	3-4	Clerical workers - skilled manual workers
VI	Unskilled	Specialised manual workers - labourers

(a) Level acquired per year of study after observation cycle.

This first study, which was in any case very theoretical, did make it possible to fix a number of specific objectives (e.g. training of 10,000 engineers per annum) and to discern the main shortages (e.g. social workers). But it was only a very rough preliminary outline, for the unreliability of the data made it impossible to express these needs in terms of investment by type of education, more especially as the training system itself seemed to be completely inadequate.

III. THE WORK OF THE MANPOWER COMMISSION OF THE FIFTH PLAN (1966-1970)

The assumption adopted as a starting point was an increase in the qualifications of the labour force population. On this basis the Commission assessed manpower recruitment needs by level and type of training for two periods, 1962-1970 and 1962-1978, so as to define the directions in which the training system should be developed.

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1) Implying contingent growth assumptions.

The six levels correspond to degrees or diplomas (although training can be acquired in other ways) and there is a normative breakdown of occupations by levels and disciplines, since the statistics derived from the censuses(1) were inadequate and not founded on an analysis of actual qualifications.

Linear projections were made on the basis of the censuses and corrected to adjust the qualification structure for a decrease in the proportion of manual workers and an increase in technicians. The following breakdown of recruitment needs was obtained for 1962-1970:

TABLE 109

Breakdown of recruitment needs by level: 1962-1978

Level	Degree or Diploma	Recruitment (in percentage)
I and II	"Licence", Doctorate Engineering degree	10
III	IUT (Nursing) CFEN	11
IV	Technician's Baccalauréat or Brevet	12
V	CAP - BEP	43
VI	End of compulsory education	23
		100

These are the theoretical qualifications of young persons entering the labour force during this period, no account being taken of overall occupational mobility or of retraining. These are therefore the basic recruitment needs. But the table does not give the exact breakdown of total training requirements (total number of persons trained) as it does not take account of retraining, further training, social mobility and persons who have been retrained but have no occupation.

However, it is essential to be able to take account of students leaving with diplomas and those leaving without diplomas. Otherwise the result would be an over-estimation of recruitments needs (which are incidentally considered as a minimum). In reality, the risk with a system of this kind is that there will be too many non-graduates and simultaneously a possible surplus of graduates. The training system should therefore try to attain these objectives both quantitatively and qualitatively for if the output of the training system shapes the occupational distribution of the active population its maladjustment is a cause of tension. The role of the Occupational Training-Upgrading Intergroup, an innovation of the Fifth Plan, was to co-ordinate the needs and the medium- and long-term output of the training system as far as this could be done with the data available.

IV. SPECIFIC CONTRIBUTION OF THE FIFTH PLAN OCCUPATIONAL TRAINING-UPGRADING INTERGROUP SET UP IN 1965

The aim was to measure the adequacy of the forecasts of manpower demand (accompanied by theoretical recommendations on the training system) and the forecasts of educational demand expressed in enrolments and not in graduates. This emphasized the difficulty of the task: the graduates had to be estimated and an enquiry made into training assumed by other ministries.

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1) The census forms require information on the last diploma. This underestimates the real training in a country where output is low and drop-outs frequent.

Taking account of the work of the Manpower Commission, the Commission for School, University and Sports Equipment introduced into the Fifth Plan the desirable breakdown of enrolments at the termination of the first cycle (end of "3e"), which for 1972-1975 is as follows(1):

Entrance into long second cycle:	35 per cent
Entrance into short second cycle:	40 per cent
Entrance into working life:	25 per cent

Likewise, an outline of the average flows of school and university enrolments for 1972-1975 was submitted to the Intergroup.

On the basis of the work of the two Commissions, the Intergroup drew up a balance-sheet of manpower requirements by training level and the resources of the scholastic system(1) (the enrolment rate method), and then a balance-sheet by occupation and type of training, determining the conditions of adjustment currently and in 1978. We are dealing here with primary resources and requirements.

The balance-sheet of manpower requirements by training level was made as follows (see Report of the Occupational Training and Upgrading Intergroup, May 1967, page 61 et seq.). It begins with the recruitment requirements estimated by the Manpower Commission for the two periods in terms of the observed or foreseeable structure of the labour force population at the three dates in question.

TABLE 110

Recruitment requirements by training level

	1962-1970		1962-1978	
	in thousands	in percentage	in thousands	in percentage
Levels I and II	525.6	10	1,098.5	10
Level III	523.2	10	1,171.0	11
Level IV	657.7	12	1,337.9	13
Level V	2,403.8	45	4,615.3	43
Level VI	1,249.0	23	2,440.3	23
	5,359.3	100	10,663.0	100

The flows from the public and private education system only were then aggregated for the whole of the long period 1962-1968, covering leavers from both general education and technical and vocational education.

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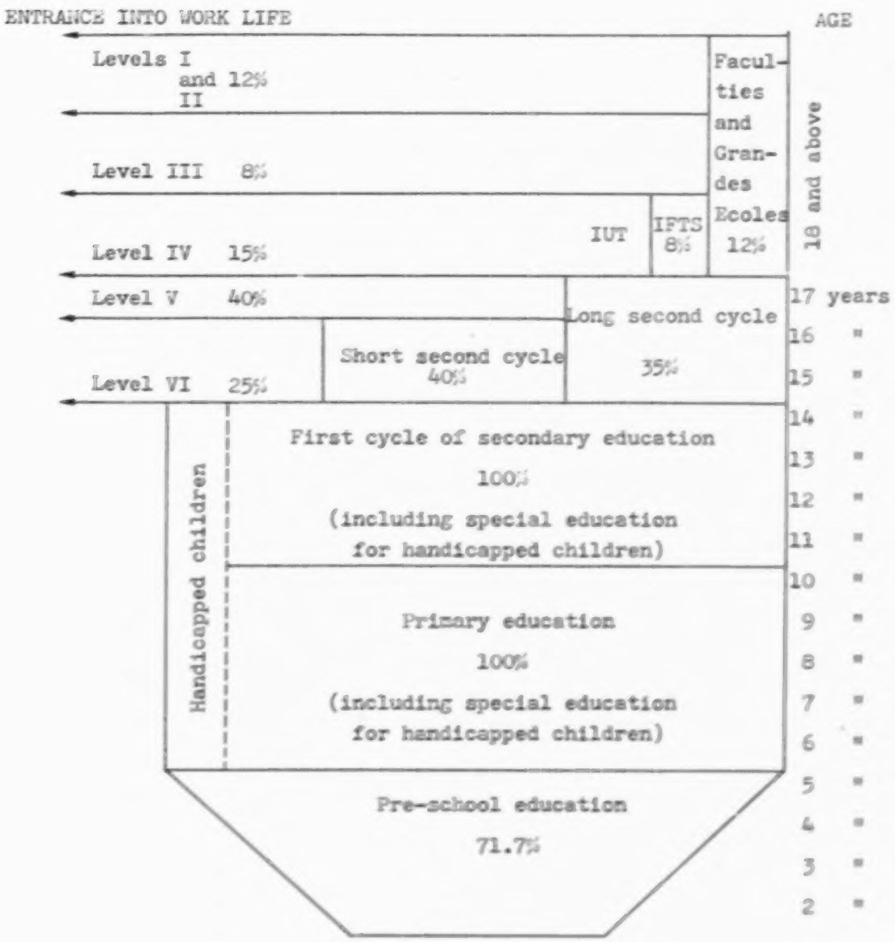
1) Resources from a para-scholastic system were not envisaged.

DIAGRAM XI

OUTLINE OF AVERAGE FLOW OF SCHOOL AND UNIVERSITY ENROLMENTS
1972-1975

Type of education


ENTRANCE INTO WORK LIFE
AGE
Levels I and II 12%
Level III 8%
Level IV 15%
Level V 40%
Level VI 25%
Faculties and Grandes Ecoles 12%
IUT
IFTS 8%
18 and above
17 years
Long second cycle 35%
Short second cycle 40%
16 "
15 "
14 "
13 "
12 "
11 "
10 "
9 "
8 "
7 "
6 "
5 "
4 "
3 "
2 "
Handicapped children
First cycle of secondary education
100%
(including special education for handicapped children)
Primary education
100%
(including special education for handicapped children)
Pre-school education
71.7%

Source: Report of the Commission for School, University and Sports Equipment of the Fifth Plan.

TABLE 111

Flow from the education system by training level 1962-1978

	In thousands	In percentage
Levels I, II and III	1,580	27.7
Level IV	1,120	12.5
Level V	3,070	34.5
Level VI	3,140	35.3
Total	8,910	100.0

CONCLUSION

Economic growth calls for a correlative expansion of training facilities and a training system properly adapted to its objective. In particular, any delay in carrying out the current reforms will, in view of the growth in spontaneous enrolments, throw on the labour market a large number of over-specialised or under-trained personnel, which is serious in a period of expanding vocational training necessitating a radical transformation of the content of training courses.

The trend outlined above calls for a few comments:

- first, the length of the process: it took ten years to introduce - far too slowly - various types of training the characteristics of which were already indicated in 1958;
- secondly, the weakness of the statistical apparatus and the means available for forecasting the trend of qualification structures in the labour force population;
- lastly, the education sector has fallen behind the manpower sector in methodology. Until flow statistics are available any comparison with the manpower sector will be arbitrary. This information will enable a thorough investigation to be made into the choice of training courses. Without a knowledge of this factor no normative projection can be achieved.

However, the Intergroup provides an interesting innovation and its work is bound to expand in the future.

Part II

INVESTMENTS AND THEIR IMPLEMENTATION

Once the enrolments have been estimated, the forecasting stage of the planning procedure is terminated. As the content of the education plan is determined in France by the overall financial appropriations for capital expenditure, the enrolment figures are merely multiplied by the unit cost factors. There are no further major options at this level concerning the development of the education system.

This rather mechanical aspect of the planning process is set forth in the first chapter of this second part.

Once this operation is completed, the plan adopted by Parliament is in no way mandatory. Its implementation depends on the give and take of the budgetary discussions. This is an initial reason why the plans are inadequately implemented. But there is a second reason which counted for much up to the Fifth Plan, i.e. the complexity and inefficiency of the administrative and financial instruments for the implementation of the Plans.

This was an increasingly serious factor as the reforms developed, particularly after 1963 when it was hoped that a large number of new institutions (Collèges d'enseignement secondaire and University Institutes of Technology) would rapidly be set up. A number of procedures were devised which greatly helped to speed up the implementation of the Plans. These strictly administrative efforts would not have been efficient, however, if they had not been coupled with a technical effort to ensure the industrialisation of school building. These two points are the subject of the second chapter. The geographical problems involved in the implementation of the plan are dealt with in a third chapter.

Chapter I

DETERMINATION OF THE VOLUME OF INVESTMENTS

The determination of the resources needed for the operation of the education system is the specific task of the Commission for School, University and Sports Equipment(1). This Commission is formed to advise the Commissariat général du plan when each new plan is being prepared; it consists of representatives of the administrations, employers' associations and trades unions, and persons chosen for their special competence. To assess the total requirements of the education system at Ministry of Education level (i.e. for the State Budget), the Commission refers to the enrolment forecasts (dealt with in Part One) established by the Statistics and Economic Trends Service of the Ministry of Education with which it works in close collaboration. The requirements to be determined are those of suitably equipped premises and personnel.

As regards investment (school buildings), the Commission's function is to suggest a general financial framework, the amount of which is not mandatory, within an indicative planning system; however, as an integral part of the national plan for economic development, it is put to the vote in Parliament. Thus, the volume of investment is determined in physical terms and then quantified and the amount of expenditure this represents is known.

We shall begin with a description of the investment forecasting methods used and how they were evolved, followed by an appraisal of the degree of implementation of the last three development plans.

I. FORECASTING METHODS: UNIT COSTS

The general approach used comprises five stages:

- Estimate of the intake capacity needed for the first term of the horizon year.
- Estimate of the intake capacity available in the first term of the first year.
- Study of building standards and unit costs.
- Amount of investment required (difference between the two capacities multiplied by unit costs).
- Breakdown of the cost of investment among the different public authorities.

This approach has not varied throughout the preparation of the last three Plans. The first operation follows immediately from the enrolment forecasts, while the fourth is a simple arithmetic calculation.

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1) One of the "vertical" committees formed to study a specific sector, as opposed to the "horizontal" committees concerned with the definition of the conditions for overall balance.

Some explanation of the other three operations is needed, however.

A. Estimate of the Intake Capacity available in the First Year of Execution of the Plan

Such an estimate entails, first, an appraisal of the execution of the previous Plan, and, secondly, the formulation of standards for the subsequent utilisation of existing premises.

1) Evaluation of effective intake capacity in the last year of the previous Plan

The theoretical "satisfaction rate" which we are trying to determine for each type and level of education involves quantitative and qualitative aspects.

From the strictly quantitative viewpoint, any delays which may arise from various causes handicap the initiation of the subsequent Plan, particularly in a period of rising costs.

From the qualitative viewpoint, a distinction must be made between the replacement of existing buildings and the construction of new buildings, while an accurate, impartial assessment must be made of the present overcrowding in existing establishments. Overcrowded classes upset working conditions in the schools. For a given capacity, classes of 35 pupils do not yield the same educational results as classes of 25. In view of the number of repeaters, this affects the requirements of teaching staff and, consequently, the quality of school work and the ultimate efficiency of the system.

2) Standards of utilisation of existing premises

It is especially important not to handicap, from the outset, the teaching conditions in the education system when the objective is the full utilisation of existing premises. This has the effect of precluding, at least for the period covered by the Plan, any margin of latitude or possibility of adjustment to factual situations differing from the predictions. This concept of full utilisation was the aim of the authors of the Fifth Plan, both for existing premises and for new premises. It represents an effort at rationalisation, and is in fact a necessary improvement for an expensive public service, on condition that all the variables, quantitative and more especially qualitative, are taken into account.

B. Determination of Building Standards and Unit Costs

This represents the most important phase of the forecasting process.

1) Building standards

This is an essential aspect of the forecasting process, insofar as it is possible to take account of the qualitative variables concerning actual conditions of school and university work. Unfortunately, under the Fifth Plan these standards were not as a rule reviewed in the case of old school buildings, although various educational reforms were introduced. Many now appear too restrictive. As for the new types of establishments instituted under the reform measures (in particular the CES), the standards adopted (square metres per pupil, etc.) represent the minimum acceptable if the efficiency of education is to be preserved. In the case of the CES, this raises a somewhat serious problem since, with standardized buildings, it is very difficult to suggest any changes to the standard programme during the period covered by the Plan. The formulation of the Sixth Plan will no doubt give an opportunity to review the standard programmes, but the fact remains that the new CES already built will to a large extent be qualitatively deficient(1).

2) Unit costs

After fixing the building standards, the Commission will then determine the unit costs per pupil to be adopted for each type and level of education. Two phases are involved:

- Assessment of unit costs differentiated according to the size of the various types of schools to be built, and the related facilities (canteens, boarding-houses, etc.).

- Calculation, on the basis of these differential unit costs, of average unit costs applicable globally to each of the main levels of education.

The basic unit costs are indexed on a coefficient adjusting them to the real building cost, which is used to establish the Plan's estimates and the distribution of changes (by level of education) between the state and the local authorities.

Average costs are a more suitable instrument for making global estimates.

C. Distribution of the Burden of Investment between the State and the Local Authorities Concerned

This is a necessary step for the determination of the programme authorisations to be entered in the State Budget. At primary level, the state is responsible for about 70 per cent of the building costs. At secondary level, it assumes responsibility for about 50 per cent of the cost of the land, and 85 per cent of the building costs.

For higher education the whole investment is financed by the state, although some grants of land may be made by local authorities.

As indicated above, little progress has been made in this field. Some effort was directed, however, towards securing full employment of school premises when drawing up the Fifth Plan.

Systematic research is now being carried out to establish the basic unit cost per pupil as close to reality as possible and to incorporate the maximum number of components.

As regards the first point, the scale of the required investment expenditure no doubt implied more economic use of existing premises, but this effort, essential as it is, is greatly limited by the need to respect the educational imperatives imposed by the reforms. The preparation of the Sixth Plan will probably enable the financial impact of the educational reforms to be more clearly defined from the investment angle; it can then be fully taken into consideration in the planning process.

As regards the second point, the research undertaken should lead to a better understanding of the real situation, and ensure that over-equipment at some levels does not coexist with quantitative and qualitative under-equipment at others.

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1) These problems are considered in detail in the following chapter.

These efforts, combined with the progress made in the administrative and financial procedure for the execution of the Plans, should enable better use to be made of appropriations within the same overall financial framework.

The progress achieved in the actual execution of the Plans is dealt with in section II of this chapter which follows.

II. EVALUATION OF THE PLANNING PROCESS IN RELATION TO THE IMPLEMENTATION OF THE PLANS

When the Plan has been completed and approved by Parliament, the Ministry of Education is allowed, for each type and level of education, certain credits known as programme authorisations, covering a period of four or five years. These programme authorisations have to be spread over four or five budgets, according to the period covered by the Plan. It may happen (as with the Fourth Plan) that the Commission itself indicates the distribution over time of the programme authorisations, but this is not generally the case. The Ministry of Education usually decides how they are to be spread when each budget is drawn up. The Ministry's investment budget thus represents one instalment (one-quarter or one-fifth) of the total programme authorisations included in the Plan. This, at least, is the principle, but there is nothing automatic or compulsory about it as there is no organic link between the Plan, which lays down guidelines for a long-term policy, and the budget, whose total amount is subject to the imperatives of short-term policy. This may lead to some delay - a very serious matter in a period of reform. Furthermore, no reappraisal of the Plan is made while it is in course of execution; if, at any given level of education, the actual demand is larger than was anticipated, and it is considered essential to satisfy it (as was the case for primary education under the Fourth Plan), a transfer of resources is made at the expense of other types of education, in respect of which the Plan will be cut. Again, in a period of rising costs, failure to revalue the programme authorisations for the Plan means that the actual results will be cut down.

The determination for each plan of a "rate of satisfaction" for each level of education, in physical terms, and an assessment of the administrative and financial terms of execution enables an opinion to be formed on the planning of the educational investments made in France under the Third, Fourth and Fifth Plans.

A. Execution of the Third Plan: cf. Table 112

The Committee's proposals being usually expressed in terms of intake capacity (number of pupils), and the actual results in terms of premises (classrooms, area of workshops or of activities at higher education level), it is somewhat difficult to draw up an exact balance-sheet. The table is therefore very incomplete, although an effort has been made to include the fullest possible data.

The assessment of the execution of the Third Plan for School, University and Sports Equipment covers two points:

- the actual installation of the facilities needed to accommodate the numbers anticipated;

- the administrative and financial terms of execution of the Plan.

1) Premises actually brought into service under the Third Plan

This balance-sheet is drawn up in physical terms, which has the advantage of eliminating the incidence of increased costs in money or real values(1) and of linking the results achieved with the corresponding enrolment forecasts.

A glance at the table shows that the successive adjustments made before the Plan was voted by Parliament considerably reduced the funds made available to the Ministry of Education. The final Plan in fact covers only 87 per cent of the total investment requests submitted by the Commission. This global percentage varies according to level:

- elementary education: 87 per cent;
- short secondary education: 91 per cent;
- classical and modern secondary education: 55 per cent;
- technical education: 82.2 per cent;
- higher education: 82 per cent.

Such adjustments obviously jeopardise all the objectives established by the Commission: the fact that the resources allotted fall short of the real needs is a source of delay in the development of the education system from the outset.

However, the results are assessed in relation to the objectives finally adopted. Only the premises actually brought into service during the period covered by the Plan are considered. The degree of execution of the Third Plan is appraised at each level of education.

a) Primary education (excluding continuation courses)

The greatest effort is being made at this level, owing to the requirements of compulsory schooling. The results are far above the estimates in the Plan, as even the Commission's targets have been exceeded. There is, however, still a fair amount of tension on the primary schools owing to the scale of internal migration which was under-estimated; this means that many classes are overcrowded, and maintains the pressure of demand.

b) General secondary education
Continuation courses

The general secondary schools show the largest growth in enrolments, which even exceed the estimates. As the actual amounts credited represented only 88 per cent of the programme authorisations decided under the Plan, excessive strain is put on these schools. However, the fact that they come under the Department of Primary Education allows some latitude in the deployment of premises (and teachers).

Classical and modern lycées

The capacity to be provided under the Plan was scaled down considerably in comparison with the Commission's request. In spite of this, the number of mobile classrooms is too high in proportion to the number of new classrooms which should have been brought into service. Too many pupils are therefore taught in unsatisfactory conditions and a substantial backlog has built up in the provision of permanent facilities compared with the growth of the spontaneous demand which it is intended to satisfy.

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1) The credit lines opened for a given Plan may be larger than was initially foreseen, while the corresponding results in fact fall short of the agreed requirements; or the actual results obtained with the same appropriation may be restricted by rising costs.

TABLE 112

Execution of the Third Plan (1958-1961): Capital expenditure (in physical terms)

	Objectives adopted by the Commission			Objectives adopted in the Plan		Premises brought into service					Percentage achievement of the Plan's objectives	Increase in enrolments
	1st Urgency	2nd Urgency	Total	In physical terms	%	1958	1959	1960	1961	Total		
- Overall					87							
Primary education (25 per cent)(1)												
Nursery schools and infant classes	4,000	"	4,000	3,500	87	1,930	1,663	1,293	1,368	6,254	178%	+ 7%
Elementary and terminal classes	24,500	"	24,500	21,000	87	8,940	8,070	6,684	6,676	29,370	139%	+ 5%
Continuation courses	6,000	"	6,000	5,500	91	970	952	995	1,577	4,444	88%	+ 73.4%
Replacements	1,000	"	1,000			"	"	"	"	"		
Secondary (classical and modern) + EN(2) (15 per cent)												
Ordinary classrooms						2,404	3,235	2,225	4,496	12,350		
New classrooms				10,000		1,091	2,078	1,393	4,562	6,879	68.8%	
Mobile classrooms				2,500		715	605	395	1,018	2,733	109%	
Converted classrooms						598	552	437	1,251	2,738		
Specialised classrooms						1,021	1,149	1,416	1,768	5,354		
New classrooms						554	916	1,182	1,238	3,890		
Mobile classrooms						12	48	31	26	117		
Converted classrooms						555	185	203	404	1,347		
Intake capacity (number of pupils)	432,500	"		(3) 240,000	55	80,000	109,000	70,400	"	"		
of which: residential (number of beds)	97,400	"				24,084	30,094	19,280	24,327	102,947		
refectory places						14,660	18,831	13,420	14,697	73,297		
Long technical courses (ENP, CT) (14 per cent)(1)					82.2							+ 37.6%
Ordinary classrooms						430	750	591	811	2,582		
New classrooms						245	548	397	"	"		
Mobile classrooms						90	100	97	"	"		
Converted classrooms						95	102	97	"	"		
Workshops, sq.m.						45,172	61,216	47,881	119,323	273,592		
New workshops						36,083	53,936	44,296	"	"		
Mobile workshops						3,239	484	1,432	"	"		
Converted workshops						5,850	6,796	2,153	"	"		
Intake capacity (number of pupils)	85,900	29,700	115,600									
of which: residential (number of beds)	31,200	"	"			2,218	3,158	3,377	7,847	16,600		
refectory places	27,950	"	"			2,864	6,190	5,476	16,402	30,932		
Short technical courses (CA)											+ 36%	
Ordinary classrooms						1,082	1,819	985	781	4,667		
New classrooms						598	1,380	448	"	"		
Mobile classrooms						261	247	390	"	"		
Converted classrooms						223	192	147	"	"		
Workshops, sq.m.						131,984	117,474	100,430	60,469	409,357		
New workshops						90,049	88,311	17,951	"	"		
Mobile workshops						11,911	8,863	9,095	"	"		
Converted workshops						30,024	20,300	17,384	"	"		
Intake capacity	77,000	"								+ 36%		
of which: residential (number of beds)	29,000	"				7,861	8,057	9,919	4,062	29,899		
refectory places	30,000	"				13,117	13,707	15,381	7,223	49,428		
Total technical: Intake capacity				32,000 per year		"	24,000	45,000	"	"		
Higher education (1.2 per cent)(1)(4)					82							+ 36%
Intake capacity	88,250	34,800	123,050									
Law and IEP	8,600	5,000	13,600									
Humanities	11,800	12,800	24,600									
Science	52,500	13,500	66,000									
Medicine and pharmacy	15,350	3,500	18,850									
of which: beds in university halls of residence	36,450	7,350	43,800									
meals in restaurants	97,500	12,000	109,500									

Source: Report of the Commission for School, University and Sports equipment.
Reports on the execution of the Third Plan.

1) Percentage of financing covered by communes.
2) EN = Ecoles normales (Teacher training colleges).
ENP = Ecoles nationales professionnelles (National vocational schools).
CT = Collèges techniques (Technical schools).
CA = Centres d'apprentissage (Apprenticeship centres).
IEP = Instituts d'études politiques (Institutes of political studies).
3) 60,000 per year.
4) No data are available for estimating the additional capacity established during the period covered by the Third Plan, as this cannot be deduced from the breakdown by activities.

Long and Short Technical Education

This is one of the areas to which the Commission attached much importance but where actual results have been least satisfactory. Programme authorisations under the Plan were actually granted (approval of the project by the Ministry), but there was considerable delay in execution (use of appropriations).

Thus, while the increase in enrolments is smaller than in long and short classical and modern education, account must be taken of the number of pupils rejected every year owing to lack of places:

61,000 in 1957;
59,000 in 1958;
75,000 in 1959;
80,000 in 1960.

Furthermore, since premises are old and often insanitary, the capacity created under the Plan is largely for replacement purposes. In 1960, for example, only 25,000 of the 45,000 places created corresponded to an expansion in technical education. Finally, only about one-third of the new premises provided for by the Plan have actually been built.

In short technical education (apprenticeship centres) investments seem very inadequate, except at the end of the period of the Plan.

In long technical education (lycées, collèges techniques and écoles nationales professionnelles), the backlog is also considerable as only 17 establishments out of 28 were under construction in 1960-61. Yet the poor geographical distribution of existing establishments at this level made the speedy construction of new establishments all the more necessary.

c) Higher education

Programmes were respected but the largest appropriations were granted only at the end of the period. Moreover, the rate of construction is slow and it will be a long time before the effects of belated decisions are felt. Meanwhile, total student enrolments increased at a regular and moderate pace. The situation would not therefore be alarming if the trend of enrolments by subject had been in conformity with the Plan's objectives. However, as we have seen in the preceding Chapter IV, this is not the case: while enrolments in the humanities and law were very much higher than the forecasts, the increase in the science faculties was too low (reduction in the number of holders of the elementary mathematics and experimental science baccalauréat in 1961), although the expansion of the science faculties was the principal objective of the Third Plan. The delays in the other sectors were therefore all the more serious because the numbers were greater than expected. In all, the number of activities simply initiated under the Third Plan was the same as the number effectively carried out.

B. Implementation of the Fourth Plan (cf. Table 113)

This will be studied on the same lines as the Third Plan. One can, moreover, make the same comments concerning methodology, as the report by the Commission and the annual progress reports are not expressed in the same terms.

TABLE 113

Implementation of the Fourth Plan (1962-1965) capital expenditure (in physical terms)

	Objectives adopted by the Commission			Objectives adopted in the Plan		Premises brought into service				
	New class-rooms	Replace-ment	Total	In physical terms	%	1962	1963	1964	1965	Total
Overall										
Total primary education (20%)(1)										
Nursery schools and infant classes	4,800	2,150	29,850	20,000	67	1,130	991	1,192	1,244	4,557
Elementary schools(2)	22,900					5,700	4,733	4,926	4,600	19,959
Terminal education	4,000			2,250	56.2	"	"	"	"	"
General secondary education										
C.E.G. classes 20% (1)						1,354	1,594	1,932		
Ordinary classrooms	"	"	"			"	"	"	"	"
Specialised classrooms	"	"	"			"	"	"	"	"
Refectory places(3)	123,500	14,000	137,500			"	"	5,956		
Beds in boarding schools	36,000	20,000	56,000			"	"	1,988		
Capacity to be created	278,000	45,000	323,000							
Classical and modern lycées (13%)(1)										
Ordinary classrooms	"	"	"			2,141	2,364	2,125	4,616	14,080
Specialised classrooms	"	"	"			983	950	901		
Refectory places(3)	56,150	22,600	78,750			22,427	28,504	27,522	55,804	134,257
Beds in boarding schools	71,200	25,000	96,200			12,086	15,883	16,033	17,903	61,905
Capacity to be created(4)	293,000	68,000	361,000							
Technical education										
C.E.G.(0%)(1)										
Ordinary classrooms	"	"	"			"	699	"	"	
Workshops in m²	"	"	"			"	110,750	"	"	
Refectory places(3)	31,500	20,000	51,500			"	10,661	"	"	
Beds in boarding schools	42,000	15,000	57,000			"	8,044	"	"	
Capacity to be created	141,000	50,000	191,000							
Technical lycées(5) (17%)(1)										
Ordinary classrooms	"	"	"			"	1,378	"	"	
Workshops in m²	"	"	"			"	154,820	"	"	
Refectory places(3)	43,000	9,000	52,000			"	15,544	"	"	
Beds in boarding schools	75,000	8,000	83,000			"	10,591	"	"	
Capacity to be created	210,800	17,000	227,800			"				
Total technical education										
Ordinary classrooms						1,880	2,077	2,360	2,635	8,952
Workshops in m²						260,000	265,570	237,000	175,000	937,570
Refectory places(3)			103,500			23,190	26,205	36,900	23,394	109,689
Beds in boarding schools			140,000			15,730	18,635	22,700	12,545	69,610
Capacity to be created			418,800							
Mobile classrooms for secondary education			4,000							
Number of classrooms to be built for replacement and to relieve congestion in secondary education as a whole			180,000	130,000	81					
University higher education										
Intake capacity (seats)(6)	160,000	50,000	210,000	180,000	86	35,270	31,310	66,210	24,970	157,760
Beds in university halls of residence (20%) (1)	"	"	70,700	52,000	73					
Seats in restaurants	"	"	55,600	-	-	3,742	7,900	11,506		

1) Share financed by local authorities.
2) Excluding further education and education for handicapped children (30 national schools, 72 departmental schools and 200 new classrooms).
3) With one place for two pupils in two sittings.
4) Including teacher training colleges and preparatory classes for the "grandes écoles".
5) Including sections for the training of higher technicians.
6) Five faculties and institutes [I.N.S.A. (National Institute for Applied Sciences) and E.N.S.I. (Higher School of Engineering)].

1) Premises actually brought into service under the Fourth Plan

As before, the balance-sheet is established by level and in physical terms. In practice there is a difficulty here since the targets in the Plan refer to capacity (number of places), whereas the progress reports refer to number of classrooms and there is no reliable means of passing from one to the other. This is a serious shortcoming which makes it impossible to give an accurate account of the implementation of the Fourth Plan.

a) Primary education (nursery schools and infant classes, and elementary classes)

In the first place, the targets established by the Commission were substantially reduced owing to an over-restrictive assumption concerning internal migration. In fact, enrolments grew to such an extent that it was impossible to respect these limits. At the same time, the unexpected arrival of repatriates from Algeria (78,000 additional pupils for elementary classes alone) meant that actual enrolments remained stationary instead of beginning to decline slightly as expected. Performance at this level was higher than provided for in the Plan, but less than had been recommended by the Commission. However, as schooling at this level is compulsory, construction more or less kept pace with needs.

b) Secondary education

At secondary level, several factors led to the under-implementation of the Plan for the various types of education.

As we saw in Chapter IV, enrolments increased more rapidly than expected, particularly in primary education where growth necessitated transfers of appropriations to the detriment of secondary education. Furthermore, the rise in building costs (about 10 per cent) reduced still further the volume of completed projects as there was no revaluation of the appropriations.

The targets proposed by the Commission had themselves been adjusted downwards. These reductions solely affected requirements for reconstruction and the relief of congestion, and not new capacity to be created. Despite this, too much new building in secondary education simply represented the replacement of a certain number of old buildings which were dangerous. There was in addition an unequal distribution of financial resources, taking into account other urgent requirements. Long general and technical secondary education was thus, relatively speaking, favoured to the detriment of the technical education schools and the introduction of the observation cycle (thus increasing the needs of terminal education).

In view of the reduction in appropriations, an attempt was made to concentrate the effort on new capacity. In fact, a large proportion of the premises built were inevitably replacements; the new accommodation actually installed was in the end short of requirements which proved to be higher than had been forecast. The result was further overcrowding of classrooms.

Once again the too systematic disregard of conditions of work in schools quickly led to difficulties.

In the case of technical education, an indirect way of measuring the backlog is to evaluate the effort made at the level of residential establishments. The Plan is considerably in arrears in this respect, since only half of the scheduled number of beds could be brought into service. This is rather serious in view of the uneven geographical distribution of these establishments.

TABLE 114

Implementation of the Fifth Plan (1966-1970): capital expenditure (in physical terms)

	Objectives adopted by the Commission	Objectives adopted in the Plan in physical terms	Percentage	Additional capacity actually created under the Plan between 1966 and 1969 inclusive	Rate of implementation	Mobile classrooms (places)	Premises recuperated	Total capacity	Proportion of requirements satisfied in relation to Plan	Percentage share of government
Pre-school education (places)	430,000	343,000	80.0(3)	277,000	80.7	2,484(4)				72.0
Elementary education (places)	790,000	672,000	85.0(3)	525,000	78.0	-				72.0
First cycle of secondary education (places)	923,000	840,000	91.0	447,000	53.2	-	20,000	467,000	55.5	80.0
Second short cycle (places)	107,000	96,400	90.0	97,000	105.0	44,000	15,000	156,000	161.2	86.5
Second long cycle (places)	128,000	73,000	57.0	80,000	109.0	27,195	7,221	184,400	144.0	86.5
Handicapped children (places)	one-third of recorded requirements		72.0							85.0
First level further education		28,000		12,900	44.8	-	-	12,900	44.8	
Specialised sections of first cycle		27,000		19,530	72.3	-	-	19,530	72.3	
National vocational schools(1)		15,000		8,211	54.9	-	-(5)	8,211	54.9	
Higher education (m²)(2)		1,804,690	76.5	1,258,000	69.7	70,000	115,000	1,443,000		98.0
Preparatory classes (places)	8,000	6,000	75.0							
Literary and technical IUT (places)	68,000	45,000	66.0	22,200	49.3	-	-	22,200	49.3	
Scientific IUT (places)	50,000	43,200	86.0	29,400	68.0	-	-	29,400	68.0	
Faculties of Law and Humanities	529,000	375,900	71.0	274,000	73.0	-	-	274,000	73.0	
Faculties of Science	970,000	697,300	71.0	568,000	81.4	-	-	568,000	81.4	
Schools of Engineering	361,000	249,500	69.0	146,000	58.6	-	-	146,000	58.6	
Faculties of Medicine	431,000	382,370	88.0	270,000	56.1	-	-	270,000	56.1	
Faculties of Pharmacy	168,000	99,600	59.0							
Libraries		257,350		138,250	57.7	-	-	138,250	57.7	
University halls of residence, etc. (places)										98.0 98.0
Halls of residence	35,000	23,200								
Semi-residential establishments	59,000	38,500								
Rooms	78,000	58,500		26,015	44.4	-	-	26,015	44.4	
University restaurants	76,000	53,200		28,800	54.1	-	-	28,800	54.1	

Source: Report by the Commission for School, University and Sports Equipment for the Fifth Plan, and report on the implementation of the Plan.

1) i.e. long and short technical education.

2) Excluding libraries.

3) This deficit corresponds to 4.2 per cent of expected enrolments but, taking into account internal migration, the deficit is 20 per cent. The same applies to elementary education where the apparent deficit of 3 per cent hides a deficit of 15 per cent.

4) Number of classrooms.

5) Under the Fourth Plan.

c) Higher education

New capacity corresponded to 86 per cent of the Plan's objectives, which themselves represented only 86 per cent of those determined by the Commission. According to the report on the Fifth Plan, the rate of implementation at this level was about 64 per cent, taking into account the time-lag in utilising the programme authorisations initiated during the last year of implementation.

Implementation of the Fourth Plan was therefore somewhat unsatisfactory, both quantitatively (new capacity inadequate) and qualitatively (delay in the establishment of new structures). Such a balance-sheet is, however, very approximate owing to the poor quality of the data available.

The effect of this reduction in appropriations is felt unequally at each level. The sectors most affected are, in descending order: the long second cycle, Faculties of Pharmacy, IUTs in the tertiary sector, Faculties of Humanities and Law, and handicapped children (reduction of 30 per cent and over).

Considerable progress has been made with regard to the accuracy and detail of data, so that for the first time it has been possible to prepare a coherent report on the implementation of the Plan, in physical terms.

2) Premises actually brought into service: analysis by sector

a) Primary education

Requirements were mainly derived from the effects of internal migration. For the first four years of implementation of the Plan, the programme authorisations correspond to a rate of implementation of 56.6 per cent in constant francs, which is a relatively low percentage. In physical terms, however, the rate of implementation is much higher: 80.7 per cent for pre-school education and 78 per cent for elementary education. The difference is mainly due to the fact that the local authorities made a much greater effort than expected, for two reasons: in the first place they financed, without any government grant, a certain number of buildings with the help of the schools fund for public establishments (41,200 places for pre-school education and 89,100 for elementary education), and, in the second place, as the flat-rate government grants(1) for primary education had not been revalued since 1963, the financial burden is heavier than estimated owing to the rise in prices.

b) Secondary education

- First cycle

In terms of programme authorisations the rate of implementation was about 62.7 per cent in constant francs, but in physical terms it was 83.4 per cent of the estimates in the Plan (700,462 places). This difference is the result of the savings achieved through the standardized building procedure. But factors with the opposite effect reduce the significance of this rate of implementation. These factors include: renewal requirements (systematically ignored in the forecasts) which represented 25 per cent of new classrooms; the fact that effective capacity of standardized CES is lower than their theoretical capacity(2) (78,000 places in theory)

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1) This grant is a percentage of an amount of expenditure which is itself evaluated at a flat rate.

2) Cf. the following chapter, I(C).

and that the proportion of places filled in the CES varies considerably, which is logical since they were established in accordance with the school map(1) and based on expected enrolments in 1972. If account is taken of all this, we have a total of 467,000 additional classrooms, corresponding to a rate of implementation of 55.5 per cent. It does not therefore seem that the number of additional places necessary can be achieved under the Fifth Plan, even with the use of mobile classrooms.

- Short second cycle

Here the rate of implementation in physical terms exceeds the estimates in the Plan (100.5 per cent), although a substantial proportion of expenditure was for replacement purposes. This considerable effort was made necessary by a very disappointing trend in enrolments (cf. Chapter II, Part One of this Book).

- Long second cycle

A particularly high rate of implementation was achieved (109 per cent), even after deduction of buildings for replacement purposes.

c) Handicapped children

Despite the considerable proportion of disbursements in comparison with the other Plans, rates of implementation remained low in a sector where the backlog is considerable.

d) Higher education

The overall rate of implementation was 68.4 per cent in constant prices.

- Faculties

The rate of implementation was about 80 per cent.

- There is a serious delay in the provision of libraries (rate of implementation 53.7 per cent) and this reacts adversely on the already poor working conditions of students and in practice prevents any increase in the proportion of individual work.

- University Institutes of Technology (IUT)

The difference between the rates of implementation noted for the IUT in the secondary sector and those in the tertiary sector (68 per cent and 49.3 per cent) can be explained by the fact that educational structures for tertiary IUT's came into service much more slowly than planned. Financing must be speeded up during the last year of the Plan if its objectives, already lower than those of the Commission, are to be achieved; especially as the possibilities of converting old premises are small (between 1966 and 1968, 12,000 places out of 25,000 were recuperated from former secondary school premises).

e) University, residential and other establishments

The residential and day boarding accommodation initially planned for pupils in the preparatory classes and half of the students of the IUT and schools of engineering has not been built. A large proportion of the rooms were to have been financed under the HLM procedure (dwellings at a moderate rent), which would have reduced the contribution of the Ministry of Education. However, the percentage of rooms financed under the HLM procedure is very small and cannot be increased before 1969. Finally, programme authorisations were also limited. There is therefore very considerable leeway to be made up.

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1) Cf. Chapter III.

Accordingly, while the average rate of implementation is about 70.5 per cent, there are considerable differences from one sector to another. These variations generally have legitimate causes, as indicated. Two problems remain, however, concerning sectors where the targets of the Plan have been considerably over- or under-implemented: in the case of the long second cycle (13 per cent), the effort approved was perhaps not necessary in comparison with other sectors where needs were urgent. As concerns university establishments, the delay is serious and a further review of the situation is probably called for.

Finally, the replacement operations excluded by the Commission were in fact substantial (25 per cent in secondary education); even though the sums devoted to these requirements may seem too large, it was hardly realistic to ignore them from the outset.

Conclusions

Our findings are still, on the whole, very incomplete. The rather long study of the Third Plan has nevertheless enabled us to state the problems. Only the report on the implementation of the Fifth Plan makes it possible to draw up a coherent balance-sheet of the intake capacity created. It should also be pointed out once more that during a period of reform the time needed to establish the new structures should be as short as possible, or the forces of inertia in the system will be released. If important problems persist (the CET for example) this is due both to the scale of the process involved and the fact that the reforms themselves, which for the moment remain outside the planning process, are neither sufficiently comprehensive nor sufficiently integrated.

The fact remains that the initial adjustments made when the Plan is voted handicap the desired development of the education system from the outset.

Finally, as there is no organic link between the Plan and the operating budgets, the programme authorisations voted in the Plan remain the only basis on which later budgets can be established; performance may be subject to cuts or delays which spoil the coherence of the whole.

CHAPTER II

IMPROVEMENT OF IMPLEMENTATIONS

I. THE STANDARDISATION OF SCHOOL BUILDINGS

When reforms make it necessary to install new types of establishments (CES's, two-year CET's, IUT's) facilities must be available for use in good time. The magnitude and urgency of this task meant that the traditional financing procedures of the Ministry of Education were too slow. Thus a remarkably large-scale experiment is now going on in France: it began when the Fourth Plan ended and it took the form of replacing the traditional type of construction by industrialised, mass-produced school buildings using standardised methods.

Standardisation is, moreover, a technique that has been used for many years. Since the State makes a large contribution to capital expenditure, the files submitted to the Ministry had to meet a certain number of norms laid down centrally. These norms themselves have two aspects:

- the educational standardisation of establishments, which means determining their optimum reception capacity; for example, it is thought that the educational unit of primary schools, which have to be geographically as close as possible to the corresponding school age population, should be three to five or ten classes(1);

- technical standardisation, relating to the internal layout of the establishments, in the light of their educational purpose. The internal organisation of a CEG and a CET will be quite different: the number of classrooms, for example, or libraries, special-purpose rooms, laboratories, etc. These norms thus represent the translation in terms of facilities of the specific educational data of the system: the proportion of pupils who are to receive a particular type of education, the pattern of teaching, timetable, teaching methods, coefficient of use of premises, etc. The various elements are then expressed in square metres per pupil, which makes it possible to determine the average unit cost. Ever since 1955, a certain number of standardised models of the various components of the establishment (ordinary or specialised classes, laboratories, etc.) have been used in secondary, general and technical education. Limited though they were, these models represented a certain progress technically (simplification of construction), financially (setting ceiling prices per type of operation) and educationally (the search for a functional organisation of establishments).

Thus the standardisation of school buildings is not in itself a new procedure, although for a long time it remained fragmentary. The standard models applied only to certain elements of the school to be built, which meant that the various procedures for approving the projects could not be shortened. Only when the reform in 1963 was brought in, setting up the CES, was it possible to define accommodation norms per

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1) Nursery schools usually have four classes.

establishment and to arrive at a standard description of the school as a whole, a method which was widely used in the Fifth Plan. This is the novelty and originality of the French experiment as in arriving at a standard description of establishments traditional building methods can be replaced by the industrialised method.

Having described the principles of the industrialisation of school buildings, we shall now try to assess the results obtained in the first four years of the Plan and the future prospects.

A. Principles

The standardization of school buildings has two aspects:

- it represents an overall view of the problems raised by school buildings;
- it is the prerequisite of the industrialisation of these buildings.

1) Standardization

As practised in the Fifth Plan standardization is no longer confined, as in the past, to a simple educational (reception capacity) or administrative categorisation, or even to a purely technical standardization. It is a synthesis of educational imperatives, organisation possibilities and ingrafting prospects, leading to the definition of a series of standard reception capacities. Thus CEG's of 600 to 900 and 1,200 pupils, for example, have been defined with a nomenclature of the necessary premises and areas and the possibility of adapting certain elements (boarding and day-boarding facilities) to local conditions. Standardization is thus linked both with the plan and with the school map, since the reception capacity must match recruitment areas that are well adjusted to the various levels of education.

This process has both administrative and technical advantages. Administratively, standardization simplifies and speeds up the administrative stage of construction procedure, since the choice of layout does not involve an exhaustive survey of educational needs in each individual case but the selection of a few simple combinations (day schools, boarding schools, day-boarding schools) which are immediately expressed in the form of a pre-established technical construction programme. From the technical point of view, standardization is the necessary condition for any large-scale industrialisation.

2) The industrialisation of school buildings

a) Basic option of the Fifth Plan

From the technical point of view, there are two possible approaches:

- either industrialisation, using prefabricated individual components or complete structures which constitute a kind of catalogue and permit considerable flexibility. This is applicable to all school and university buildings;

- or industrialisation based on the development of standard types of establishments in which the only variations would be those imposed by the requirements of the site. Although this latter concept is less flexible and less easy to generalise than the former, it was the one originally chosen. The immediate problem of the Ministry of Education is to install a large number of standard establishments of well-defined categories and, for this, the only overall large-scale solution is complete prefabrication. The Fifth Plan provides for the construction of 1,500 standardised CES's.

b) Conditions of industrialisation

This involves bulk orders and guaranteed production runs.

Bulk orders

Industrialised building can only be achieved by a fairly small number of firms each producing long runs of products. It is therefore impossible for these firms to negotiate with all local authorities. Bulk orders must therefore be placed by the central authorities. Grouping is easy for higher education where the state builds the requisite premises itself. For secondary education, use was made of agreements under which the local authorities make the state responsible for supervising the work, so that it directs the operations and groups orders which it places with firms specialised in the industrialised construction of school buildings.

Guaranteed production runs

Industrialised building means that the firm responsible must make substantial investments which it can amortize only if it is certain of a production flow extending over several years. The technique of contracts for a number of years under which the state undertakes to finance the construction by a given firm of a series of projects spread over several years, had made it possible to offset the disadvantages of the annual budget system. The programme authorisations voted annually for the budget are in fact, if not in law, an instalment of the programme authorisations envisaged in the Plan.

c) Standard plans of establishments

As a result of the standardization drive, the current standard programmes have now been established for first cycle establishments in the CET and for the university institutes of technology. This work also makes it possible to meet the new educational requirements, integrating new aspects of teaching: for example, standardization is responsible for the introduction of a number of special-purpose classrooms in the first cycle of secondary education. Technically, this means building more classrooms than the number of classes, most of them specially equipped. Two examples will serve to illustrate this.

- Standard programme of a CES

A CES with 16 classes has:

- 10 general purpose classrooms of the ordinary type where the traditional teaching methods can be used;
- 1 room for personal work;
- 10 special purpose rooms;
- 1 history and geography room;
- 1 music room;
- 1 art room;
- 2 science rooms;
- 1 physics and technology room;
- 3 demonstration rooms;
- 1 set of premises for educational activities.

The number and distribution by function of the various premises allow for a weekly coefficient of room utilisation. There is thus a kind of compulsory rotation, which has to be fairly large for the special-purpose rooms. A CES designed in this manner forms a whole and its average cost allows for the theoretical percentage distribution of pupils among the various sections, as laid down by the Plan, and for the co-efficient of room utilisation.

- Standard programme of a university institute of technology

A IUT has a central block which groups the administration, the lecture halls, the teachers' offices, the library and the students' study rooms. Around this central block there are blocks for 300 students, which match the various types of education and the content of which depend on this education, thus supplementing the general facilities afforded by the central block. These blocks for 300 students have practically only special-purpose rooms, which is a new feature compared with the traditional university. Thus a mechanical engineering block is made up of:

- three supervised training rooms;
- three laboratories with two special-purpose rooms and their annexes;
- one machine tool workshop and its annexes;
- a certain number of planning and design offices (one design office, one office for the supervisor, four research offices, two drawing rooms, one printing room);
- miscellaneous premises.

Using a system based on the same principles, standard plans for CET's were drawn up, with two programmes, depending on whether the establishment came under the secondary or the tertiary sector.

B. Results

The results so far obtained in industrialised building are encouraging from two points of view: faster production and lower costs.

1) Saving of time

This aspect has already been dealt with in Chapter I above. For example, between lodging the file and placing the contract, the investigation period, whatever the establishment, is six months.

The works take six to eight months for a CES or a CET, seven to twelve months for a IUT and six to ten months for university halls of residence. As the files have to be lodged six months before the beginning of the financial year, a facility is brought into operation during the year in which it is financed or, at the latest, during the second quarter of the following year. Nevertheless, what started as an industrialised building project often ends with a craft-type organisation on the building site.

2) Saving of costs

Industrialisation has made possible savings in real terms in relation to the ceiling prices fixed by the Plan. It is difficult to assess these savings, but they are probably in the region of 5 to 10 per cent. In addition, the price of the industrialised buildings is now about 17 per cent lower than the price of traditional buildings. The largest economies were achieved for the CES's. As regards the IUT's, the prices laid down by the Plan were found to be insufficient (as the IUT's had not yet been precisely defined when the Fifth Plan was being prepared) and their cost price is about 10 per cent higher.

3) The increasing proportion of industrialised buildings in the capital equipment budget of the Ministry of Education

The share of industrialised buildings in the capital equipment budget of the Ministry of Education between 1964 and 1967 was as follows:

	1964	1965	1966	1967
Traditional buildings	91.8	84.9	78.3	67.8
Industrialised buildings	8.2	15.1	21.7	32.4

In 1968, the proportion of industrialised buildings was 50 per cent.

C. Problems and Prospects

As with any new experiment, a certain number of problems have not yet been resolved. Furthermore, industrialisation has not yet been introduced for all educational buildings. The work on the Sixth Plan will no doubt provide an opportunity to reappraise this matter as a whole.

1) Problems which arise as regards the standard plans of establishments used

These mainly appeared in the CES's and CEG's. They are of both a qualitative and quantitative nature:

a) Quantitative

First and foremost there is a problem of real capacity. The schools are built on the basis of theoretical pupil strength: CEG = 300, CES = 600, 900 or 1,200. Experience has shown that this theoretical figure cannot be attained even if the establishment is utilised 100 per cent. For example, on the basis of 40 pupils per class, the intake capacity of a "CES 600" is 580 and on the basis of a figure of 35 pupils per class (the figure that is now being used), the real intake capacity cannot exceed 520 pupils. Thus there are a certain number of fictitious school places, which reduce the amount of saving. It would seem that as the standard plans of the CES's aim to build at the lowest cost and by industrialised methods, there is very little room for manoeuvre. It would have been preferable to work out for such establishments an equivalent of the allowance made for losses due to friction in machines. This aspect became obvious only with experience.

b) Qualitative

Here again the plan was too conservative. A certain number of requirements were not fitted into the standard plans because when these were being worked out they were not seen as such. They relate to teaching and the teaching staff.

- Organisation of teaching time

The CES, for example, was built on the basis of an hourly rotation of the classrooms. But weekly open air activities take three consecutive hours for each of the 16 sections of the CES. It is thus very difficult, or even impossible, to fit open air activities into the hourly rotation system. The result is often an unsuitable succession of subjects, preventing their proper assimilation and the alternation of activities (basic courses, supervised studies, stimulus subjects, etc.).

In Book II, mention is made of the value of current experiments in one-third teaching time in secondary education. This type of experiment, which educationally gives very positive results, is very difficult to apply to a CES as the one-third system reduces the freedom of choice even further by increasing the amount of time devoted to sport and specialised study.

Again in the teaching field, but in another connection, the CES's receive, as is well known, children between 11 and 15 years of age. But the educational psychology of a pupil of 11 and a pupil of 15 is not comparable. The younger pupils need greater stability in their educational background, particularly as they have just left primary education where all the teaching is done in the same room. The compulsory rotation of all the schoolrooms, which is the basis on which a CES is designed, makes it impossible to give one room to a given group of pupils. Thus, some of the younger pupils of the CES's are put off by this constant change of premises in none of which do they feel at home.

Lastly, the streaming of sections in the CES's requires special organisation of the premises that are used for the transition and terminal practical sections. This individual treatment, which makes for more active teaching methods, could not be provided within the framework of the standard plans now being used. Thus very little work is done in the workshops by terminal classes. Other problems still have to be resolved: for example, the absence of libraries.

- The teachers

Other limitations have become apparent in connection with the teachers. For certain subjects, the same teacher can give classes in several establishments. For these teachers it is highly desirable, and even essential, that the hours they work in one school should be grouped together. This complicates even further the drawing up of timetables.

These few examples will suffice to show how difficult it is to fit all the pressures affecting a particular system into a standard establishment. Many of these become apparent with experience. Unfortunately, in an industrialised building improvements cannot be marginal. The Sixth Plan will probably provide an opportunity to change the standard model as a whole. As regards the CES's that have already been built, improvements will be made wherever possible although it is probable that some of these schools will not be equipped to permit full implementation of the educational principles embodied in the reform. Furthermore, standardization as envisaged,with full utilisation of the premises built,considerably reduces the possibility of any new experiments or reorganisation of school activities which might be subsequently attempted in these establishments.

2) The problem of the extension of industrialised methods to all school buildings

It has been shown that savings in time and costs are concurrent with industrialisation. The problem then arises of its general application to all school buildings that have to be built. In primary education, it would seem that progress should not be difficult in this field. Nevertheless, it is a sector in which there is a large amount of existing equipment for a stable school-age population. Industrialisation, on the other hand, means that many units have to be built. However, there may be such a large amount of internal migration that standard-type schools may need to be developed.

In secondary education, there remains the problem of the general and technical long second cycles. By developing standard plans, it should be possible to reorganise establishments in relation to the 1965 reform.

In higher education, the reform should have led to changes in premises (fewer lecture halls and more small rooms). At this level, the deans and the faculty boards work out their own projects and there is no standardization, except for certain laboratories in the science faculties. In practice, the premises are still to a large extent linked to the teachers and at this level the reform has no effect as the same standards and budget appropriations have remained in force. As a first step, quite obviously it is possible to increase the utilisation factor of the premises, which is quite low for faculties. In the immediate future, any standard layout would seem to be fairly difficult to achieve owing to the changes which are certainly still going to occur in higher education.

To sum up, the industrialisation of school buildings has made possible a considerable amount of capital equipment under highly advantageous conditions from the point of view of time and cost. The difficulty is that industrialisation cannot easily be experimented with; thus any shortcomings are reproduced on a large scale. It may be that the Sixth Plan will provide an opportunity for further thinking and so offset the disadvantages referred to earlier. One then wonders whether it would be advantageous to continue to develop standard plans of establishments, subsequently corrected and made more flexible, or whether the "open industrialisation" of school buildings (by prefabrication of individual elements) would not provide much more flexibility in an education system which is constantly changing. In the latter event, it would be advisable to review the whole question.

II. IMPROVEMENTS IN THE EFFICIENCY OF THE ADMINISTRATIVE AND FINANCIAL MECHANISM FOR THE IMPLEMENTATION OF PLANNING

A survey of the ways in which the successive plans are implemented shows how the administrative and financial machinery has been improved.

A. Administrative and Financial Implementation of the Third Plan

With the exception of the first stage of the education system (five years' primary schooling) in which the rate of building largely follows the trend in school enrolments owing to the scale of the centralised orders for the new urban centres (representing 43 per cent of the appropriations at this level), administrative and financial machinery for the implementation of the Plan leaves much to be desired. Creation of the necessary facilities is considerably behind schedule, particularly as regards the long and short technical courses and higher education, because of the excessively slow spending of appropriations(1).

There was already a considerable delay at the decision-making stage since most of the programme authorisations were allocated only at the end of the Plan (1960-61), particularly those for higher education.

At the execution stage (rate of disbursements), the delay increases further. Although programme authorisations granted by the Government increased by 81.5 per cent between 1957 and 1961, disbursements increased by only 57.2 per cent. The annual trend of disbursements for technical and higher education is in fact as follows:

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1) For further details concerning the education budget, see Book I, Part One.

TABLE 115

Trend of disbursements under the third plan for technical and higher education in million francs

(as a percentage)

Type of Education	1957	1958	1959	1960	1961
Long and short technical education	17.5	22.3	25.3	23.8	40.0
Higher education	11.6	16.3	21.5	22.1	28.8

Source: Report on the implementation of the Third Plan

As a result of the underspending of appropriations provided under the Plan, a large proportion totalling Frs. 2.8 billion had to be carried forward to the following Plan. In view of this situation it is necessary for economic and financial reasons (reduction of unit costs in particular) to reduce the time-lag between the grant of programme authorisations and the utilisation of funds by increasing the rate of work by roughly 75 per cent.

B. New Financing Techniques Introduced during the Fourth Plan

Diagrams of the administrative channels followed by projects for financing of school and university buildings are contained in Annex XVI.

This administrative reform, which took effect in 1963, can be summarised as follows:

- deconcentration of decisions;
- decongestion of central services;
- simplification of channels;
- development of standard projects.

With regard to deconcentration, the Commission's suggestions were implemented fully (Circulars of 11th April and 4th September, 1962). Consequently, building projects at primary level are no longer examined centrally (Decree of 31st December, 1963). An effort was also made to speed up the procedure for the commitment of expenditure. The operations planned were undertaken from the beginning of the financial year. A close watch was also kept on the rate of disbursement.

Reform in the financing of secondary school building (Decree of 27th November, 1962) is another important element of the administrative reform. The Decree states two principles:

- Use of flat-rate subsidy (when the work is not being carried out on behalf of the State) which is a percentage, varying from one local authority to another, of the theoretical cost of the project (number of pupils x average unit cost). The state bears an equivalent amount.
- Simple definition of criteria concerning the subsidy and the responsibility of the state and local authorities respectively. As concerns the purchase of sites and their viability, local authorities may obtain a state subsidy equal to 50 per cent of the price paid, which would enable them to follow a policy of land purchase. When the work

> is being done on behalf of the Government, the local authority's share in expenditure may not exceed 40 per cent. Where the local authorities are responsible (which is generally the case), the subsidy is a flat-rate.

The third recommendation concerns the improvement of building methods: wider use of the pluri-annual contracts procedure for secondary and higher education, introduction of industrialised building programmes in which standardization makes it possible to reduce the scope of research and also costs and delivery dates(1).

Finally, in the case of higher education, a similar improvement was achieved by the simplification of the procedure for issuing building permits and an attempt to delegate technical responsibility to rectors of the academic regions.

Results

The effects of this reform were very quickly felt, in both the commitment and disbursement of appropriations, and the 1964 budget saw the end of the problem of the carry-over of funds. For the Fourth Plan as a whole, the following programme authorisations were granted as compared with the estimates:

TABLE 116

Programme authorisation allotted under the fourth plan in million 1961 francs

Types of Education	Estimated in Plan	Actual Expenditure 1961 francs(*)	Percentage
Higher education	3,421	2,938.0	86.0
Research	735	574.7	78.2
Secondary education	5,525	5,224.0	94.5
Primary education	1,600	1,701.0	106.3
Youth and sports	555	509.0	91.8
Miscellaneous	164	92.6	56.5
Total	12,000	11,039.3	92.0

Source: Report on the implementation of the Fourth Plan.

(*) In current prices expenditure totals Frs. 12,096 million and the percentage becomes 101 per cent.

The overall rate of performance was 92 per cent.

This result was obtained gradually by speeding up the rate of disbursement of programme appropriations, and an improvement was noted at all levels of education.

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1) Cf. 1 and 2 under I(B).

TABLE 117

Trend in the rate of disbursement of annual programme appropriations

(as a Percentage)

	1961	1962	1963	1964	1965
Primary education	96.8	98.6	99.3	91.9	99.4
Secondary education	89.2	86.6	90.8	94.6	99.2
Higher education	84.4	94.4	76.5	81.1	99.2
Handicapped children	81.9	78.9	34.6	32.6	90.0
Research	100.0	98.0	81.5	85.4	99.0
Administrative services	59.4	55.8	70.0	50.3	95.2
Overall percentage	88.0	91.0	87.0	88.8	99.2

Source: Reports of the Finance Commission of the National Assembly.

The trend in the use of appropriations was also satisfactory; the report on the implementation of the Fourth Plan shows it to have been as follows:

1962 = 7.4 per cent;
1963 = 88.2 per cent;
1964 = 85.8 per cent;
1965 = 94.9 per cent.

The volume of appropriations carried over from one financial year to another thus became very small.

By putting an end to these delays it was possible to make educational planning more efficient.

C. Administrative and Financial Implementation of the Fifth Plan

There was no great change here as compared with the Fourth Plan apart from the consolidation of the results achieved. The overall rate of disbursement of programme authorisations in 1965 francs was 70.5 per cent; it would have been preferable had it been 80 per cent.

But there is no doubt that considerable progress has been made by means of industrialised building which has reduced the implementation periods appreciably. Much equipment can henceforward be installed in the year of its financing. Equipment financed under the Plan will therefore be available at the beginning of the 1971 academic year. This is a year earlier than forecast, which is not negligible.

Industrialisation has also made it possible to save on unit costs of equipment. Actual costs are either equal to the estimates (CET, despite the reduction to two years), or lower (CES). Where estimates are exceeded, as in the case of the IUT for example, this is mainly due to inadequate definition at the time the Plan was prepared. They therefore cost 10 per cent more. It is still too early to make a final assessment of the implementation of the Fifth Plan which is not yet completed.

TABLE 118

Budgetary implementation of the fifth plan programme authorisations in 1965 francs

(million francs)

Item	Estimate in Plan	Actual expenditure '66–69	Rate of implementation	Actual expenditure '66–69 expressed in 1965 prices	Rate of mplementation
Pre-school and elementary	2,527.0	1,555.0	61.5	1,931	56.6
First cycle	5,550.0	3,759.6	67.7	3,454	62.2
Short second cycle	1,479.1	1,584.9	107.2	1,467	99.0
Long second cycle	1,082.3	1,524.0	40.7	1,419	131.0
Handicapped children	765.0	595.0	78.8	543	70.9
Higher education	4,724.0	3,518.9	74.5	3,233	68.4
Residential accommodation, etc.	1,284.0	530.4	41.6	494	38.4
Complementary equipment	355.0	302.5	85.2	279	78.0
Overseas departments	495.0	368.2	74.4	341	68.9
TOTAL	18,260.0	13,735.5	75.2	12,891	70.5

Source: Ministry of Education. Budget Department.

Conclusion

The administrative reform is finally an important factor for progress as, the annual budget appropriations being fully used up, the Ministry of Education planners are able to argue over the final figures at the time when final budget decisions are made without having to answer the argument frequently made in the past that their allocations had not been fully used up.

Chapter III

THE GEOGRAPHICAL IMPLEMENTATION: REGIONAL PLANNING OF EDUCATION AND THE SCHOOL MAP

In France, education is a highly centralised national service in which all the measures adopted have an egalitarian impact and concern the territory as a whole. For many years past, therefore, the need to adapt education to regional requirements was not recognised. But this ambition for equality, which was the basis of the whole educational development policy, was not spontaneously given concrete expression. Although schooling is compulsory all over France, considerable regional disparities have emerged in secondary and higher education.

With regard to secondary education, the variation in the enrolment ratio in second cycle classes (the first year of the second cycle of secondary education) for five regions constituting extreme cases will give some idea of these regional inequalities in 1965.

TABLE 119

Enrolment ratios in second cycle classes in four regions in 1965

Region	Enrolment ratio
Centre	26.83
Midi-Pyrénées	42.46
Haute-Normandie	22.95
Provence-Côte d'Azur	44.19

Source: Ministry of Education, Planning Service.
In O.E.C.D. document DAS/EID/65.103.

Further data relating to the number of students per 100,000 population would also seem to confirm the existence of these inequalities in the development of higher education.

TABLE 120

Number of students per 100,000 population in five regions in 1965

Region	Number of students/ 100,000 inhabitants
Auvergne	541.3
Midi-Pyrénées	751.7
Basse Normandie	382.2
Côte d'Azur Provence	739.9
Paris Region	603.3

Source: Ministry of Education, Planning Service. In O.E.C.D. document DAS/EID/65.103.

If we look for other indicators of the extent of regional inequalities(1) of opportunity in secondary and higher education, we find that such factors as the geographical origin (degree of urbanisation) and social background (social status category of the parents) of those concerned have a cumulative effect on the type of training received (distribution of education facilities throughout the country). Yet unequal opportunity in education is only one aspect of the social and economic disparities affecting most regions which, in a highly centralised country, tend to increase, particularly during a period of massive urbanisation. Reacting against this tendency, the French authorities did their best during the Fourth Plan, and particularly during the Fifth Plan, to introduce a policy for regional expansion with a view to rational community development.

This policy followed two fundamental guidelines:

- first, the creation of counter-balancing capitals to offset the excessive attraction of the Paris region, by developing and improving the spheres of influence of highly urbanised provincial regions;

- secondly, efforts were made to introduce a development policy for all regions, defined in the light of the specific vocations and possibilities of each of them.

The twin lines of this policy began to be realised when the plans were regionalised. This regional policy, applied to all sectors of activity, also embraced education through the various mechanisms for the regional planning of educational facilities. In this connection, the process of plotting the school and university map is a particularly interesting illustration of this attempt at regionalisation. From both the above aspects, education must play a specific role and become, as it were, the logistic framework of regional development.

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1) For further details, cf. "Regional Inequalities of Opportunity in French Education and the Measures Designed to Reduce Them": Pierre Laderrière in Social Objectives in Educational Planning. O.E.C.D.

The school map is indeed the basic mechanism used by the Ministry of Education to define, particularly for the Fifth Plan, a policy for the location of the school facilities contemplated by the reforms. It therefore emerges as a specific instrument for the rational installation of these facilities. Nevertheless, if this school mapping process is to be given its full meaning, it must be looked at in the more general context of the regional planning procedures for educational development(1).

To this end, the first part of this chapter briefly describes the structures and mechanisms involved in setting and achieving regional targets for the development of education. The second part is devoted to the school and university map, regarded as a technique for installing school and university facilities in the light of regional criteria.

I. REGIONAL EDUCATIONAL PLANNING MECHANISMS

The aim of these paragraphs is to outline the administrative organisation for the formulation and execution of educational plans in their geographical aspect and to analyse the mechanisms and procedures for the regionalisation of the school and university equipment plan.

In the broader context of community development, the planning of school and university facilities is closely connected with that of other public utility services throughout the whole planning process.

This regionalisation effort is quite recent and it is only in the course of executing the Fifth Plan that it has been systematically pursued both at the level of administrative bodies and in the regionalisation procedures themselves. Historical perspective is therefore lacking for a critical judgement on these mechanisms or their technical efficiency. The task has been progressively to install instruments for the regionalisation of the Plan, fitted into the traditional administrative structure of the Ministry of Education, thus setting off a slow process of decentralisation and challenging the strong centralising tradition of that Ministry.

A. The Administrative Structures

As regards the role of the educational planning agencies, fairly close co-ordination has been successfully established between the academic side (the educational aspect) which comes under the Ministry of Education and the regional side (the responsibility of the prefect for capital expenditure).

The administrative bodies in which the regional development of education is planned and executed fall into two categories. They are either traditional bodies which have been assigned new regional planning tasks and which act "vertically" (by way of decentralisation) in relation to the central authorities, or co-ordinating bodies which may be called "horizontal".

1) Vertical administrative bodies(2)

There are two authorities whose action must be co-ordinated at regional level: the Ministry of Education and the economic authorities.

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1) It should be emphasized in this connection that the regional planning of education becomes apparent only after the compulsory schooling stage, when it is desired to introduce the concept of a specific relationship between education and regional development.

2) Further details of the central administration are given in Annex XV for the situation before 1968 and in Chapter III, Part Two of Book II for the participation mechanisms.

a) The administrative organisation of the Ministry of Education and regional planning functions

The Ministry of Education is organised administratively at two levels, the region and the département. The regional administrative unit is the "académie" or academic region. France is divided into 23 academic regions, each under a rector responsible for all educational activities in a group of départements. The rector, who represents the Minister and is the head of all educational administration in his academic region, is assisted by a technical secretariat and a consultative body known as the Academic Regional Council (Conseil d'Académie).

In each département, the education services come under the authority of an Academic Regional Inspector (Inspecteur d'Académie), who is the delegate of the Rector and who is assisted by a departmental council for primary education. The Academic Regional Inspector is a member of the educational facilities section of the Departmental Commission on Public Utility Services (Commission Départementale d'Equipement) (economic administration).

b) The regional economic organisation

This organisation, which was remodelled in 1964, is mainly responsible for planning and executing public capital investment schemes under the regional development policy (long term), for regionalisation of plans (medium term) and for regional action under the annual budget (short term). Geographically, these regional bodies operate at regional and département levels.

In 1964 France was divided for administrative purposes into 21 regions, each grouping a certain number of départements. Each region is headed by a regional prefect, who is assisted by an advisory body, the Regional Economic Development Commission (CODER). He also has a headquarters staff of specially assigned officials. He is in full charge of regional economic planning and is responsible directly to the Prime Minister. Responsible for carrying out the Government's regional development policy in his region, he directs and supervises the activities of the département prefects. He has the duty of preparing the regional element of the National Economic and Social Development Plan and of following up its execution (he submits progress reports). To this end, with the assistance of the Regional Administrative Conference (consisting of the prefects of the départements in his region) he rules, in particular, on the distribution of the capital expenditure appropriations among the various départements, in the light of the projects to be carried out.

Educational facilities fall within the competence of the regional prefect as a sector of public capital investment the programming of which, at primary and secondary levels(1), is one of his main functions.

At département level, the prefect is the administrative authority responsible for co-ordinating the départemental offices of the national civil service and for the general direction of their activities. Although the main planning functions are grouped at regional level, a certain amount of preparatory and executive work as regards primary investment falls upon the département prefect. He is assisted by an

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1) University capital investment is strictly a central responsibility.

advisory body, the département Public Utilities Commission(1), which prepares the studies and work for the département during the preparation of the regional element of the Plan, proposes the capital expenditure programme for primary schools in the département and organises school transport.

In this network of administrative structures the key bodies are therefore the academic region on the side of the Ministry of Education and the region on the side of the economic authorities.

The academic region, which constitutes a satisfactory level of administrative and financial decentralisation, has been assigned regionalisation tasks as and when they have arisen. On the other hand, within the economic administration, as the département was too narrow an administrative unit to promote regional policy, 21 regions were created as administrative units in order to establish a suitable level for co-ordination, decision-making and the formulation of regional programmes. This division of the territory, grouping several départements together, was based on historical, social, economic and demographic data and on the characteristics of each unit. Thus each region corresponds to a social and economic reality but, above all, it expresses the determination to create a sufficiently adaptable level of action in an area profoundly unbalanced by the weight of the Paris region.

What is important, however, is not so much the co-existence of the academic region and the region as their harmonization. This had been reflected in the creation of seven new academic regions (there are now 23, there being two academic regions in each of the regions of the southeast). This conformity was strengthened when the university map was plotted. Every academic region and every region now has in its capital city university facilities or higher education establishments which give each of them a university infrastructure bringing higher education home to those whom it serves and linking it to the economic activities of the environment.

2) The horizontal planning structures concerned with the regionalisation of the educational equipment plan(2)

a) National bodies

At national level, regional economic planning bodies are responsible for elaborating regional policy, setting priorities and co-ordinating the regional activities of the various technical ministries. Examples are the Comité de Régionalisation du Plan (Committee for the Regionalisation of the Plan) which co-ordinates the regional elements, the Commission Nationale d'Aménagement du Territoire (National Community Development Commission) which works out long-term goals, the Délégation à l'Aménagement du Territoire et à l'Action régionale (Delegation for Community Development and Regional Action) which follows up the regional application of the Plan and co-ordinates the execution of each capital equipment scheme conducted by the various ministries. It is at this level that

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1) All these advisory bodies, whether they come under the Ministry of Education or the economic authorities, have a similar membership: an equal proportion of officials *ex-officio*, appointed members and members elected by local authorities or professional bodies.

2) Further details of the central bodies (Commissariat Général au Plan) responsible for educational planning will be found in Chapter I of this second Part and in the Introduction to Book III.

public utility capital investment schemes are co-ordinated in the long term, in conjunction with the community development policy. The organisation of education is treated at this level as a basic structure, linked with the urban infrastructure and the communications network: the National Community Development Commission proposes locations for school and university establishments in keeping with the geographical distribution of the population and long-term activities (about 20 years).

b) Regional educational planning bodies: the Academic Regional Commissions for the School Map

The principal bodies are the Academic Regional Commissions for the School Map (Commissions Académiques de la Carte Scolaire) which were set up attached to the rectors as from 1958, and whose work is co-ordinated centrally by a National Commission for the School Map (Commission Nationale de la Carte Scolaire) and the Planning Service of the Ministry. These bodies, which are responsible for research and conception and have no power of decision, are required to advise on all questions connected with the location of secondary education establishments. They were thus closely associated with the preparatory regional studies of the Fourth and Fifth Plans.

Each Academic Regional Commission is under the chairmanship of the rector. It comprises the Academic Regional Inspectors of the départements, Ministry of Education officials, (the Inspector of Technical Education, an elected member of the Academic Regional Council, two appointed heads of schools) representatives of the regional services of the Departments of Agriculture, Social Affairs, Youth and Sports and representatives of teachers' unions and trade associations (commerce, agriculture, industry). With the secondary school map now being plotted, the competence of these Commissions has recently been redefined and now extends to all questions of adapting school facilities to the trend of enrolments. The Commissions will also periodically review the school map in the light of the development of the education system and will supervise its annual execution within the framework of the budget.

These Academic Regional Commissions are thus the regional bodies responsible for planning, in the strict sense, the location of secondary education facilities. As bodies for the study and co-ordination of works at local level, their functions are closely linked with those of the administrative services responsible for school facilities and those of the regional economic authorities responsible for capital expenditure.

II. THE MECHANISMS FOR THE REGIONALISATION OF SCHOOL FACILITIES

These mechanisms are the plotting of school maps and the regionalisation of medium-term educational equipment plans. The two approaches are complementary and bring in the same research and planning bodies, namely the planning services and the school map services.

A. Procedure for Plotting the School Map

The plotting of a school map for secondary schools(1) (envisaged in 1958 and developed between 1963 and 1965) met the need for rational location of facilities to cope with the increase in enrolments and the educational targets set in the reforms.

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1) There is no school map for primary schools. As things are at present, the university map is plotted directly by the central authorities.

It is thus primarily a technical instrument designed to guide the localisation of equipment programmes. This technical aspect (as an instrument for executing the Plan) will not be dealt with in detail here: it is discussed in the second part of the chapter. In this paragraph, the main object is to describe the procedure for plotting the map so as to bring out the role played by regional authorities. This role is considered first in the plotting of the map and secondly in the execution of the programme thus defined.

1) Plotting the school map

This process falls into four stages:

The central authorities set up study groups attached to the rector (Academic Regional Commission for the School Map) and the Academic Regional Inspector (departmental working parties) and defines the procedure for co-ordinating their work with that of the local administrative authorities.

Directives are issued setting, inter alia, short-, medium- and long-term targets in accordance with the Ministry's policy in relation to the structural reforms.

Working methods are defined with a view to uniform presentation.

The main part of the preparatory work then falls to the departmental working parties. Within the départements they have been responsible for defining geographic units (first cycle sectors and second cycle districts) in the light of social and economic variables (means of communication, degree of dispersion of housing); these geographic units are recruitment areas. After making a precise analysis of the trend of enrolments in each geographic unit, the working parties listed for each unit the reception capacity by type of establishment and then went on to assess the numbers to be provided for (by cycle, type of education and type of facilities - boarders, day-pupils, part-boarders) in 1970 (by a projection of the school structure at that date in the light both of the reforms and of the characteristics of the unit in question). The working parties then set about determining the establishments required.

All the papers are then sent to the rector, who transmits them to the Academic Regional Commission for the School Map which makes a critical assessment of the reports from each département. After the necessary confrontation and co-ordination, the Commission presents a report on the academic region which, with all the other papers, is transmitted to the planning service of the Ministry.

Finally, the central authorities and, above all, the National Commission for the School Map study the academic region reports, co-ordinate the regions, make any necessary choices, and drew up the final project.

2) Execution

Once the school map is plotted, the National Commission, with the assistance of the rectoral services, keeps it up to date and executes it through the medium of the Plan. To this end:

- it carries out studies and prepares financial proposals which, after being analysed at regional level, serve as a basis for the preparatory work of the Planning Commission;

- after the Plan has been adopted, it elaborates the educational equipment section of the regional instalments of the Plan.

In the course of the annual execution of the Plan, it contributes to the study of the teaching programme (1) for each operation, which it submits to the administrative authority. Finally, it co-ordinates arrangements for the occupation and use of premises for the new academic year.

Thus in the execution of the Plan, the role of the Academic Regional Commissions (instruments of study and conception) is much more diffuse; it is educational and not financial. The actual equipment arrangements are the result of joint action by the economic administrations and the Ministry of Education. Nevertheless, these maps are a working guide to the location of establishments in the execution of the Plan. They constitute a projection, farther ahead than that of the Plan, of the distribution in space of educational facilities (1970 is the time horizon of the present secondary school map). The school map is thus both a geographical target to be achieved by annual equipment plans and programmes and, for each programme, a frame of reference for execution. The plotting of the map is therefore closely complementary to the regionalisation of medium-term school equipment plans.

B. The Regionalisation of School Equipment Plans

Regionalisation applies both to the formulation of the Plan and to its execution.

1) The regional formulation of school equipment plans

Regional planning methods are not specific to educational facilities, but form part of an overall process which affects all sectors in the Plan and enables the regional instalments to be prepared. This process was used mainly in formulating the Fifth Plan, thanks to the creation of regional research and co-ordination bodies.

One of the targets of the Fifth Plan was to integrate the formulation of the Plan into the context of community development which meant that the regional authorities had to be associated with the preparatory work.

In the preparatory stage, when the main options are proposed within the Commissariat Général au Plan, the regional authorities, after research and study, submit regional guidelines, indicating sectoral investment priorities as a guide to the choice of the major national options. Next, after the options have been approved, the prefect of the region prepares and submits a regional report containing proposals for investment by sector (educational facilities, vocational training, housing, health and social facilities, etc.) and specifying priorities and choices between the various sectors and within each sector. These proposals, prepared by the prefect's staff, are fairly general. Before being forwarded to the national authorities, they are transmitted for consideration to the Regional Economic Development Commission (CODER).

The regional methods used to prepare the educational plan are as follows: the planning services send directives to the prefects (of the region and département) and to the rectors and academic regional inspectors. The educational facilities sections of the département (departmental working party for the school map) make an inventory of needs and of the facilities to be created in their area, which is transmitted by the prefect to the rector. The papers are then submitted to the Academic Regional Commission for the School Map, which groups them and sets priorities. The proposals

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1) Cf. Chapter II, I. above.

are in turn communicated to the prefect of the region who makes any necessary choice between the different sectors and within each sector and, in his regional report to the central authorities, submits regional investment projects for educational facilities. All the regional proposals are then re-grouped and communicated to the Commission for School, University and Sports Facilities to be used as a basis for its studies in preparing its final report. The Commission, however, is not competent to make a regional breakdown of the facilities to be created; this is the specific task of the bodies responsible for establishing the school map, the standard framework for the execution of the Plan(1). The Commission, being concerned with the conditions in which capital appropriations are used, makes recommendations for their regional distribution. It also defines certain criteria of priority (e.g. elementary schools,first secondary cycle for the Fifth Plan), which are used as a basis for regionalisation studies, the last stage of the work.

In the six months following the adoption of the Plan, the regional prefect has the task of preparing the regional instalment of the Plan, that is, the geographical projection at regional level of the targets set in the national plan. Public capital investment projects are decentralised by region, and the regional instalments of the various sectors of the Plan are co-ordinated. In the case of educational facilities, the procedure is as follows: the planning service, with the agreement of the Commissariat Général au Plan and the Délégation à l'Aménagement du Territoire, determines regional block appropriations for capital expenditure on primary and secondary education. The School Map Commission and the rector make a list of operations and priorities, accompanied by a technical and financial assessment. These proposals are then submitted to the Regional Administrative Conference and to CODER for their opinion. The prefect of the region finally lists the operations to be executed, which are included in the regional instalment of the Plan.

The regionalisation of the Plan thus takes the form, in the context of assigning financial appropriations, of individualising capital investment projects. The regional instalment is the guideline for the execution of the Plan. The regional instalments, without being mandatory, propose public investment programmes which are carried out by the authorities and the execution of which is checked (as from 1967) by the annual progress reports made by the regional prefect.

2) Mechanisms for executing the plan in space

Here, the role of the regional agencies is limited, since the execution of the capital investment projects specified in the Plan is the responsibility of the central services of the Ministry of Education, particularly the Direction de l'Equipement Scolaire. Nevertheless, traditional administrative procedures have been improved (by decentralisation) and regional agencies have been assigned the task of co-ordinating and supervising the annual equipment programmes. There has thus been some decentralisation of execution, in continuation of the regionalisation of the programmes, mainly in the form of the adoption of regionalised budgets, as the instruments for the annual execution of the regional instalments, and by administrative decentralisation.

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1) It makes regional assessments insofar as the aggregation of the various data is essential for the determination of overall data. It thus assesses the premises needed for elementary schools as a result of internal migration and the student population by academic region.

The regionalised budgets are a way of recapitulating appropriations by region, and of co-ordinating the equipment operations of the various ministries in the light of community development policy. In the case of school facilities, the Ministry proposes, in accordance with the targets of the regional instalments, a distribution by regional action area of the programme authorisations entered in the budget. The Délégation à l'Aménagement du Territoire, which is the co-ordinating body, may propose certain choices before the regional budget is adopted. At the end of the financial year, a report on the regionalisation of the budgets and the progress reports of the prefects are the two basic instruments used for checking that the regional instalments of the Plan have been carried out. The regionalisation of the budgets by the central authorities thus seems to be more in the nature of a geographical distribution of appropriations than a regionalisation technique in the proper sense.

As regards the execution of the operations entered in the budget, there also seems to be a certain amount of decentralisation towards the regional agencies. This specific point, the main advantage of which is to relieve the congestion of the central authorities, is discussed in this Book in the present Part and then in Part Three which follows, and also in Book I, Part One. Roughly speaking, the situation is as follows: for primary education, the establishment of the annual operating programmes is the task of the regional prefects within the limits of the budget allocations set by the Minister, so that there is complete decentralisation. For secondary education, decentralisation is partial only: keeping within an aggregate allocation, the local authorities propose an annual list of operations, but the decision remains with the Minister, owing to the national choices which are inevitable in view of the arrangements that have to be made for the beginning of each school year and various constraints imposed by the reforms (for example, the fact that priority has to be given to first cycle and short second cycle schools). There is no decentralisation for higher education.

To sum up this first part, it may be said that the various instruments and mechanisms used for the regionalisation of educational equipment mainly come into play in the preparatory stage of formulating the Plan and plotting the school map.

These mechanisms allow, from the outset, a certain co-ordination of the work at territorial level but the final choice always lies with the central authorities. As regards the actual execution of the programmes, there is a certain amount of decentralisation in the use of the sums that have been allocated and distributed among the various regions by the administration. The present mechanisms, although fairly limited, nevertheless have the merit of relating the aggregate needs set out in the Plan at national level to studies previously effected at local level.

The fact nevertheless remains that the most valuable instrument of regionalisation is certainly the school map, whose specific role in the execution of the education investment plan is discussed in the paragraphs which follow.

III. LOCATION OF CAPITAL INVESTMENT AND THE SCHOOL MAP

The part played by the bodies responsible for plotting these maps and the methods used have been presented above, along with the general mechanisms for the regionalisation of educational developments. They will not be dealt with again here. Our intention is to be more functional and to describe the basic principles on which these maps are plotted, and also the educational targets that have been highlighted by the reforms.

From this point of view, the school map is not only a device for formulating the Plan, but also a means of localising the general principles of the educational reforms and, once it has been established, it serves as a pattern for the subsequent execution of the Plan. It is a kind of synthesis between the social and economic concerns of community development and educational concerns, effected through the medium of a process for locating the establishments set up in the context of the Plan. Despite the value of this technique, it is not used for all levels of education. There is no school map for primary education. In any event, at this level of education the problems of location are not the same since this type of school must always be as close as possible to the users, owing to the age of the children. For higher education there is, of course, a university map, but it was plotted by the central authorities in the light of national criteria of location. Thus it is at the level of secondary education (first and second cycles) that the process of plotting school maps has been used.

The principles of plotting first and second cycle secondary school maps and the university map will now be discussed in turn.

A. The School Map for the First Cycle (Circulars of 3rd May and 28th September, 1963)

The geographical execution of the school plan made it necessary to subdivide each département in order to determine where the establishments should be sited. This subdivision took the form of creating first cycle sectors. The sector is an inter-communal school district (grouping together several communes). It is the unit of recruitment, and of schools operations, and an educational unit for guidance and for the balanced satisfaction of all the needs of secondary education. This subdivision was done on a very practical basis in an attempt to make each sector a genuine social and economic unit whose centre offered a certain number of services (general education, sports facilities, etc.) and activities (commerce, professions, etc.). It was not governed by any administrative preoccupation and does not involve a new administrative organisation of the local services of the Ministry of Education. The subdivision was, on the contrary, guided by social, economic and geographical variations. Thus, for example, the centre of the sector (the site of the school facilities) is also the centre of the school transport system. It was also based on estimates of future population and economic trends and on a number of educational choices, principles of organisation and distribution of education in space, correlative to the institution of the reform and the resulting educational structures.

Thus defined, the sector constitutes a unit of first cycle education and a recruitment area for this level of establishment such as a three-section CEG (12 classes) or a four-section CES (16 classes). According to the population density, the sector has a radius of 10 to 20 km, so that school transport can be organised in such a way that each trip does not take more than 30 minutes. The school site is chosen in the light of social and economic factors and ease of access. As the first cycle of secondary education is part of the period of compulsory schooling, the schools must be close to the families to avoid having to build boarding schools, but they have to group together all the school-age population (originally from 11 to 14 and then from 11 to 16) to allow suitable guidance. Depending on the density of population, and in order to vary the teaching patterns of schools, three types of sectors were distinguished.

1) Rural sectors

In sparsely populated areas these grouped together 400 to 450 pupils in a CEG. This corresponds to an average population of 6,000. The demarcation of these sectors and the choice of their main town (or the centre in which the CEG is located) were co-ordinated with the rural development plans made by the Ministry of Agriculture.

2) Mixed sectors

These are set up in more densely populated areas with an urban centre having a population of at least 4,000. These sectors have a population of about 16,000 and a CES with about 600 pupils which is located in the urban centre and serves an area with a radius of 10 to 15 km.

3) Urban sectors

These sectors have a high degree of urban concentration. They have less social and economic significance since there are no hard and fast rules for their demarcation which merely involves the dividing into sectors of a uniform area. They are made up either by grouping the recruitment areas of existing primary schools, or on the basis of the administrative units (districts) into which the area is subdivided. The subdivision is effected gradually on the basis of the school-age population and of the reception capacity of existing schools. All new schools are CES's. The sectors thus determined may, however, be of two kinds:

- sectors which meet the definitions given above for mixed sectors. These will have a first cycle school (preferably a CES);

- or, if autonomous recruitment areas cannot be defined, units known as urban sectors with a population of not more than 30,000. The educational needs (first cycle) of these sectors are calculated in the aggregate and the facilities distributed to the best advantage in accordance with local possibilities. Nevertheless, a suitable correspondence between first cycle establishments and their recruitment areas has to be ensured.

These units should allow direct contact between primary schools and first cycle establishments, so that the first choice of streams (transfer from the *cours moyen* second year to the various first cycle sections in Class 6) can be effected in the best possible conditions. Three types of schools may be set up in these sectors:

- a first lycée cycle which should be organised materially as an autonomous teaching unit with the same structure as a CES;
- a CES (600 pupils);
- a CEG (400 pupils).

To ensure efficient teaching and guidance, these minimum figures are always respected. Conversely, while it is undesirable that educational units should exceed 600, practical necessities have led to the creation of groups of 900 to 1,300. In practice, the first cycle urban sectors were defined in these areas after the second cycle districts had been determined.

B. The School Map for the Second Cycle (Circular of 5th January, 1965)

Subdivision in this case was at inter-cantonal level (grouping of several cantons, which are administrative units comprising several communes) and led to the creation of districts whose centre (a town of some importance) provides a fairly wide variety of services (secondary education, health services, hospitals, etc.). Although the specific aim of education means that a suitable autonomous structure has to be set up, it is essential, since economic life influences the pattern of grouping of the population and governs the employment situation, that wherever compatible with the educational goals, the organisation of the districts should correspond to real social and economic units. Two factors were considered in this connection:

- the degree of urbanisation: if rural housing predominates, the district will necessarily have a low population density despite a fairly wide area of recruitment; if, on the contrary, urban housing is in the majority, it will be preferable to have a maximum population density for each district;

- means of communication: just as the first cycle school is located so that pupils can get to school easily, in the same way means of communication are provided to enable second cycle pupils to travel easily between home and school. This does not, however, rule out the creation of second cycle boarding schools. The district is nevertheless an organically inter-related unit and not a heterogeneous collection of isolated sectors.

Each district has a set of schools with long and short courses, so that pupils leaving the first cycle in the district will have a sufficiently wide choice to enable them to follow the stream most suited to their abilities. Thus the district is also a guidance unit within which all pupils may be streamed among second cycle establishments which are no longer merely juxtaposed but co-ordinated. Thus the constitution of a district is based both on the distribution of the pupils and the arrangements for receiving them.

The central authorities have determined the general structures of education and the Plan has set, at central level, a certain number of overall targets for the distribution of children among the various types of education between 1972 and 1975. These elements are valid at national level but they could not or should not be applied automatically to the territory as a whole if regional development is to be founded on the judicious mobilisation of human resources. In this spirit, the second cycle map is plotted along two lines: observance of the general structures laid down by education policy and the adjustment of the numerical relationship between the various parts of these structures in the light of concrete data, the assessment of which has been left to the regional authorities.

Consequently, for the distribution of the pupils to second cycle courses, various "brackets" were indicated to the regional authorities which gives the system a certain amount of flexibility. Thus, for students who are to receive short technical education, the brackets given were:

- CET of the tertiary sector, average 55 per cent; bracket 47 to 62 per cent;
- CET of the secondary sector, average 34 per cent; bracket 28 to 40 per cent;
- agriculture, average 10 per cent; bracket 8 to 12 per cent.

For the long courses, the breakdown of students was effected along the following lines:

- baccalauréat classical and modern (62 per cent); bracket 52 to 72 per cent;

- technical and economics baccalauréat, commercial technician's certificate (17 per cent); bracket 11 to 22 per cent;
- technical baccalauréat and technician's certificate (16 per cent); bracket 11 to 21 per cent;
- agricultural training (5 per cent); bracket 3 to 5 per cent.

As regards the arrangements for receiving pupils in a complex structure, it is considered that:

- the district should have at least one second cycle establishment with a reception capacity for all pupils leaving long general education;

- the district should also be able to cater for pupils who take up short technical education for subjects in the tertiary sector;

- a group of interdependent and complementary districts should afford reception facilities for students specialising in the various subjects of short technical education (industrial options) and long technical education (industrial and commercial options).

This differentiation of reception capacity according to the type of education demonstrates that the school map for the second cycle cannot be plotted merely by combining isolated districts but has to be designed in the light of the links which must gradually be created between the establishments in several districts which have become interdependent and complementary within the département or region.

Lastly, the concept of a district as a guidance unit means that it must have a population of a size which makes guidance both possible and effective. The field of recruitment should not be too narrow, which would mean setting up establishments with very small numbers in which the various types of streams could not be represented, or too wide which would mean creating a large number of establishments of the same type, or which were oversized, thus prejudicing the effectiveness of the education.

Therefore, a district should cover at least ten first cycle sectors and have an average population of 200,000.

Pursuant to these principles, there are three types of districts: districts grouping together rural or mixed first cycle sectors whose needs are met at this level by a single establishment (CEG or CES); districts grouping together urban sectors in which several first cycle establishments are necessary; and districts grouping together rural and mixed sectors and one or more urban sectors. In this third type, the first cycle facilities may in some sectors include several first cycle establishments.

C. The University Map

Even more than secondary education, higher education and research may play an important part in a national policy for community development. However, in view of the large scale facilities required, an excessively liberal regionalisation of the programmes would mean a waste of capital investment (local over-equipment and excessive dispersion of resources). The university map has therefore been plotted at national level.

As part of the community development programme, the aim is to limit the attraction of Paris and to develop the universities in the provinces, particularly in the counter-balancing capitals(1), and the faculties located on the outskirts of the Paris region. This is the origin of a move towards decentralisation which should iron out the inequalities in regional attendance rates by setting up new establishments and attracting local students to local universities.

For the first and second cycles of university courses, the problems of reception capacity are similar to those that have arisen in secondary education. There has thus been a large-scale decentralisation of teaching in the light of the specific regional situation prevailing in the 23 academic regions. The same principles guided the siting of the new university institutes of technology. The relative dispersion of these institutes and their orientation, which is specific to the regional context, should give them a better chance of success.

On the other hand, the third cycle of higher education, devoted to research, has been the subject of a selective policy for the location of centres for heavy research equipment (Paris and the counter-balancing capitals) and the assignment of special subjects to each centre. Research requires a considerable concentration of material and human resources in almost all fields. There can therefore be no question of developing research activities to an equal extent everywhere, which would make them equally ineffective everywhere. Thus the location of capital investment projects for research has to comply with the following principles:

- concentration of research structures in Paris and the counter-balancing capitals;

- setting missions (research themes) for each centre. Only by a certain amount of regional specialisation can the research activities conducted in the provinces have any impact on the territory as a whole.

This chapter on the mechanisms for regionalising educational development, and in particular the methods of plotting school and university maps, may be summed up by stressing the value of these educational planning studies. These studies, for which the initial intention was merely to adapt a network of educational establishments to the new educational structures, have now begun to be used in the elaboration of a framework of planning with broader social and economic aims.

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1) These capitals, of which there are eight, are urban concentrations which are to receive priority in the development drive and whose zone of influence is to offset that of the Paris region.

Part III

TEACHING PERSONNEL

In Part Three the role of teaching personnel will be considered from two different angles.

Capital expenditure is not the only factor in the operation of the education system: staffing plays an equally important part in the development of education. The first chapter will therefore consider how the problem of teaching personnel has been approached in educational planning. This offers a specific example of the ambiguity of French planning to which attention was drawn in the introduction to Book III.

Moreover, the reforms outlined in this report have all revealed the need for a systematic review of teacher training policy if these reforms are not to remain theoretical. These qualitative measures are set forth in Chapter II.

Chapter I

TEACHING PERSONNEL AND EDUCATIONAL PLANNING

While the aim of educational planning is to determine the global amount of capital expenditure for school, university and sports equipment, the Commission also endeavoured, from the Third Plan onwards, to determine requirements with regard to the recruitment of teaching personnel by level and type of education. This effort was mainly in response to a very considerable economic problem, namely, the shortage of personnel to cope with the post-war population "bulge" which affected primary education from 1952 to 1957, secondary education from 1957 to 1970 and higher education from 1964 onwards. Given the considerable increase in requirements and the difficulties in satisfying them, it was at least necessary to determine orders of magnitude as a guide for recruitment and training policy. These purely quantitative estimates are directly based on enrolment forecasts and indicate the number of posts to be created, together with recommendations concerning the desirable output from training institutes. They are, moreover, expressed in physical terms (number of teachers or hours of teaching) and are not covered by a global appropriation, personnel expenditure being charged to the operating budget of the Ministry of Education, the amount of which is discussed annually at the time the Finance Bill is voted.

Forecasts of staff requirements consequently have a purely indicative value and are not yet an integral part of the planning process. The scope of educational planning is increasingly narrow, being limited to premises and equipment, while the importance of another factor in education - resources of sufficiently numerous and qualified staff who are as indispensable to the working of the system as classrooms and laboratory space - is completely overlooked. This is all the more regrettable since personnel resources are drawn from the output of the system itself. We have already emphasized the inadequacy of forecasts of graduates. However, in the case of teaching staff, the Commission makes an evaluation of effective recruitment possibilities which has the merit of drawing attention to bottlenecks. These were, in fact, inevitable at first (Third and Fourth Plans) since pupils from large age groups had to be taught by staff recruited from small age groups. However, as the qualitative aspects (utilisation - training) have never been considered from an overall point of view, the forecasting of deficits never made it possible to define a general policy for the management and expansion of the teaching staff to satisfy increased requirements and the new educational demands resulting from the reforms(1). To make good the deficit, the Governmental authorities were led to take a certain number of palliative measures which represented a considerable financial effort, but as they were purely quantitative measures they provided no solution to the fundamental problems relating to a large stock of personnel (362,300 teachers employed in public education in 1966-67) which is, moreover, extremely varied. In order to facilitate understanding of the text that follows, Table 121 shows the various types and levels of education with the corresponding categories of teachers.

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1) It is true that some efforts were made in this direction (teachers for the transition and practical terminal classes, teachers in CEG's) but they remained isolated.

TABLE 121

Correspondence between the various levels and types of education and the teachers assigned to them

PRIMARY EDUCATION	
Pre-school education	Women primary teachers holding a special Certificat d'aptitude professionnelle (CAP) and auxiliaries.
Elementary education and terminal classes	Primary teachers trained in the Ecole normale (regular teachers, trainees), supply teachers.
Education for handicapped children	Primary teachers holding a special CAP.
SECONDARY EDUCATION	
Orientation cycle (CES - CEG)	
Transition and terminal practical cycle	Primary teachers holding a special CAP, primary teachers with the normal CAP.
Modern section, CEG	Holders of CAP - CEG (general subject teachers), primary teachers.
Modern and classical sections of lycées	Certificated teachers (holding the CAPES), Chargés d'enseignement (graduates holding the CAPES), and Adjoints d'enseignement (graduates not holding the CAPES).
Short second cycle (CET)	General subject teachers (ENNA) Teachers of theoretical technical subjects (ENNA) Assistant teachers of technical subjects (recruited in the profession) Technical teachers who are demonstrators and workshop instructors.
Long, general and technical second cycle	Agrégés certificated teachers, graduate teachers with and without the CAPES . Teachers of theoretical technical subjects (ENSET) Teachers of practical technical subjects (ENSET)
HIGHER EDUCATION (Faculties of Humanities and Science)	Professors (holding professorships) with the Doctorat d'Etat Readers (not holding professorship) with Doctorat d'Etat Assistant lecturers } Agrégés graduates with the master degree, Assistants } third-cycle students, holders of a third-cycle doctorat.

Notes: CES = Collège d'enseignement secondaire.
CEG = Collège d'enseignement général.
CAP-CEG = Certificat d'aptitude professionnelle (Certificate for teaching in the CEG).
CAPES = Certificat d'aptitude professionnelle (Certificate for teaching in secondary schools).
ENNA = Ecole Normale Nationale d'Apprentissage (Training college for teachers in centres of technical education).
ENSET = Ecole Normale Supérieure de l'Enseignement Technique (Training college for teachers for higher technical education).

For more details see report on France, Chapter III: "Study on Teachers - France, Ireland". Document series, O.E.C.D., Paris (1969).

All problems concerning the teaching staff regarded as one of the resources available to the education system will be studied from the quantitative and qualitative points of view.

I. THE QUANTITATIVE POINT OF VIEW

The forecasting methods used to determine needs with regard to recruitment of teaching staff have undergone no fundamental modification during the last three Plans, but they have become more detailed and more precise. A comparison of estimates and actual numbers reveals discrepancies for which we shall now try to find an explanation.

A. Forecasting Methods

The Commission for School, University and Sports Equipment was set up with a view to the preparation of the Second Development Plan. It was not, however, until the Third French Equipment Plan (1957-1961) that a global forecast was made of the number of teachers needed, by level and type of education.

The methods used were fixed at the time of the Third Plan. Since then they have not varied but have become more detailed and oriented towards desirable targets.

During this period, teacher recruitment and training showed an increasing tendency towards specialisation by level and type of education. Estimates of the numbers of teachers needed were directly based on enrolment forecasts and especially on their distribution by level and type of education. This technique is linked, in its turn, with the creation of new educational structures under the reform, and with the efforts being made to relate the diplomas awarded by the educational system to the needs of the economy. The report by the Commission for School, University and Sports Equipment for the Fifth Plan (1966-1970) shows what the latest position is on this question. The following paragraphs therefore describe the methods used for the Fifth Plan, with reference to earlier Plans whenever this is a useful means of recording the progress made.

The general procedure adopted can be divided into four stages:

- evaluation of requirements at the end of the period;
- end of period balance-sheet of existing resources;
- estimation of recruitment requirements based on the difference between the two;
- examination of actual recruitment possibilities.

In the report on the Fifth Plan the method used was as follows:

1) Evaluation of requirements at the end of the period - 1972

Two elements are involved here:

- pupil enrolments expected in 1972.

These forecasts take account of demographic, educational, social and economic factors and ultimately provide a distribution of enrolments by year and type of education.

- application of a staffing rate to such enrolments.

The staffing rate is given by the following general formula:

$$\frac{\text{Pupils' weekly hours}}{(\text{number of pupils per class}) \times (\text{teaching duties})}$$

The staffing rate differs according to the type of education, the level and the subject taught; it takes into account the diversity of the teaching staff at one and the same level; it is fixed for the period of the Plan (the Fourth Plan which aimed at increasing the teacher/pupil ratio made this ratio vary each year in its forecasts).

The general formula of the staffing rate is applied directly in the case of a single or general subject teacher: (primary school teachers and general teachers of transition, practical and Modern II sections in the CES and CEG in the first cycle of secondary education). It becomes too imprecise for forecasts concerning specialised secondary teachers (M I and classical sections of the first cycle and all the second cycle) and does not make it possible to take into account the possibility of double sessions which are necessary for the teaching of certain subjects in section Modern I.

The Commission therefore established two other rates: one corresponding to requirements resulting from double sessions, and the other making it possible to establish a staffing rate in terms of subject teachers.

a) Establishment of a supplementary staffing rate for classes working in double sessions

This ratio is obtained by the following formula:

$$\frac{\text{Number of double hours per week}}{\text{(number of pupils per class)} \times \text{(teaching duties)}}$$

b) Establishment of a staffing rate in terms of subject teachers

What varies here is the number of hours of teaching devoted to the subject each week.

The Commission was able to establish a multiplier which made it possible to calculate teacher requirements for one hour's teaching of a given number of pupils.

The formula is as follows:

$$\frac{1}{\text{(No. of pupils per class)} \times \text{(teaching duties)}} \times \frac{1 \times 100(1)}{x}$$

(1) x = No. of pupils per class x teaching duties.

For one double hour in the first cycle, the formula becomes:

$$\frac{1}{x} \times y$$

where y = percentage of pupils in classes working in double sessions.

All these calculations make possible a precise evaluation of requirements at the opening of the school year 1972-73, by class and subject. This is a considerable advance on the work of the Commission for the Fourth Plan which was limited to forecasting teacher recruitment requirements by broad subject categories (literary, scientific and special subjects).

2) 1972 balance sheet of existing resources

The aim is to determine how many among the present stock of teachers will still be teaching at the end of the period: i.e. to estimate departures of established and potential established staff.

3) Estimation of recruitment requirements

- Determination of overall recruitment requirements for the period 1964-1972: this figure is the difference between the two previous results;

- Estimation of the annual average recruitment by level and subject.

4) Examination of effective recruitment possibilities

- Comparison of average annual recruitments required with the average for the previous period (to deal with the shortage which was then inevitable, the Commission for the Third Plan had suggested palliative measures);

- Forecasts of the number of baccalauréat holders and graduates from higher education; determination of the percentage of those intending to take up teaching or who should be encouraged to do so.

- Comments

The staffing rates on which the forecasts are based are not identical from one Plan to another. The elements used in determining them may vary in the light of teachers' claims or of estimates concerning the real possibilities of using the available or foreseeable stock of teachers. These are national norms; they are consequently indicative and chosen more or less arbitrarily. The basis of forecasting is therefore not necessarily homogeneous from one Plan to the other (primary education and vocational training).

In the main, therefore, forecasts are based on staffing standards determined at national level in terms of financial, educational and demographic criteria which are then applied to enrolments.

B. Comparison between Forecasts and Actual Enrolments - Attempt to Explain Disparities(1)

The comparisons between the forecasts made for the different Plans and the actual numbers of teachers reveal disparities which, if they are to be explained, must be compared with actual enrolments.

This tentative explanation is given for each Plan in turn. For the period of the Third Plan, for example, the differences are generally negative. As concerns the Fifth Plan, the mid-period report on implementation gives an idea of the situation.

1) Period of the Third Plan (1957-58 - 1960-61) (See Table 122)

Differences are generally negative and, in fact, fairly small, except in the case of CET staff.

2) Teachers responsible to the Directorate for Primary Education
(primary teachers serving in pre-school education, elementary classes, terminal classes, refresher courses, continuation courses and CEG).

The gap increased until 1960-61 and then tended to narrow, so that from that date there appears to have been no shortage of primary school teachers (this is moreover the general view). The situation is not, however, so simple since over the same period enrolments in the corresponding types of education were very much in excess

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1) The sources used for this comparison are the Informations statistiques of the Ministry of Education and the reports by the Commissions for School, University and Sports Equipment for the Third, Fourth and Fifth Plans.

TABLE 122

Comparison between forecasts and actual numbers of teachers

Third Plan

		Primary (1)	LCMT (classical, modern and technical lycée)	LCMT general	LCMT practical	LT (Technical lycée)	CET	Total Universities	Science	Humanities	Law	Medicine	Pharmacy
1957-58	actual numbers	198,340	36,403			10,396	11,870	5,332	2,372	1,030	621	"	"
	forecasts	208,353	35,196	31,756	3,440		12,625						
1958-59	actual numbers												
	forecasts	221,853	39,913	35,846	4,067		14,626						
1959-60	actual numbers	218,099											
	forecasts	233,103	45,142	40,448	4,694		16,626						
1960-61	actual numbers	226,373	44,446	40,452	3,994	11,188	13,837	7,901	3,632	1,150	717	1,842	560
	forecasts	243,603	50,130	44,809	5,321		18,626						
1961-62	actual numbers	247,618	49,393	45,126	4,267		14,710	10,401	4,413	1,371	787	3,232	590
	forecasts	253,853	55,683	49,735	5,948		20,626						
1962-63	actual numbers	260,255	54,755	50,132	4,623		16,021	12,327	5,225	1,602	894	4.005	600
	forecasts		58,608	52,033	6,575		22,626	17,505	9,783	1,704	1,121	4,897	

1) All teachers responsible to the Directorate for Primary Education (pre-school, elementary education, continuation courses, terminal classes, special education and CEG).

of estimates, particularly in primary education and in continuation courses, as we saw earlier. How, then, was it possible to reduce the shortage to some extent so that a teacher could actually be available for each class?

Two types of recruitment measures were used(1):

- The acceleration of recruitment to teacher training colleges, resulting from a belated decision in 1956, did not really show its effects until the beginning of the Fourth Plan.

- The organisation, between 1952 and 1958, of parallel recruitment on a large scale by the creation of a body of substitute primary teachers recruited at baccalauréat level without training for the profession, and established in their posts after five years' teaching.

Although these measures made it possible to reduce the shortage, it was only at the cost of an increase in the staffing rate and a deterioration in the qualifications of primary school teachers.

- In fact, between 1961 and 1967, 10 per cent of elementary classes had over 40 pupils (instead of 25) and 25 per cent between 35 and 40 pupils.

The trend of the percentage of unqualified teachers in primary education was as follows:

1955 = 7 per cent;
1959 = 13 per cent;
1961-62 = 15 per cent;
1962-63 = 11.9 per cent;
1964-65 = 5.4 per cent.

A marked improvement, however, confirming the end of the shortage was noted in 1962-63, due to the considerable number of graduates from teacher training colleges. However, this improvement in the standard of qualification must not be misinterpreted. Established teachers are, in fact, regarded as qualified teachers. However, during the same period many supply teachers were established (without having passed through the training college) under the exceptional recruitment measures which were probably applied on too wide a scale. To some extent, therefore, there was only an apparent improvement in qualifications.

b) Teachers in classical, modern and technical lycées

Here the gap was fairly large and tending to increase since during this period enrolments remained very close to forecasts. There were therefore deficits in all subjects.

A number of measures were taken to correct the deficits - a difficult task as the population "bulge" had not yet reached higher education.

- From 1956 there was an increase in the number of competitive examinations for the recruitment of science teachers, making it possible to double the output of holders of the Certificat d'aptitude aux enseignements de second degré (CAPES) (secondary school teacher's certificate); despite this, about 700 posts remained vacant in 1957.

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1) For more details concerning all the recruitment policies referred to in this section, see Chapters I and IV of the report on France in "Study on Teachers: France-Ireland", document series (OECD, 1969). As all the information in this study comes from the Service Central des Statistiques et de la Conjoncture of the Ministry of Education, the statistics are taken from this OECD report.

- Parallel recruitment was also organised as from 1956 by ministerial designation of science graduates in the first instance. This measure was later extended to all subjects until 1963.

- Efforts were also made to recruit on temporary contract, with little success.

- Finally, the Decree of 27th February, 1957, set up in each humanities and science faculty an Institut de préparation aux enseignements secondaires (IPES) (training institute for secondary school teachers) where students pursue their normal academic and university course after being recruited by competitive examination for the teaching profession and paid a pre-salary. Financial assistance to future teachers was moreover an important element of the Ministry's recruitment policy. Details regarding the amount of this financial assistance and the number of beneficiaries are supplied in Annex III which deals with the various forms of assistance to pupils and students.

This collection of measures could not have an immediate effect on all fields of study, although there were rapid improvements in some branches (modern languages, natural science, for example). But, as in primary education, it affected the quality of the instruction given.

At this level of secondary education, the study of the trend of the teacher/pupil ratio (which should not be confused with a staffing rate) is of little value owing to differences in weekly teaching duties (15 hours for teachers who have obtained the agrégation, 18 for those with the teacher's certificate, 21 for Adjoints d'enseignement or assistant teachers and 25 for auxiliaries), the diversity of timetables according to the sections and subjects concerned, the lack of information on the need for double sessions and on the number of extra hours actually worked (each teacher is required to teach for two extra hours per week).

In addition to the deterioration in teaching conditions (overcrowded classes), there is a deterioration in the qualifications of teaching staff(1).

Table 123 shows the percentage of unqualified teachers for the main categories of subjects for the period 1950 to 1965 in the classical, modern and technical lycées. The deterioration is noticeable.

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1) Qualified teachers are those who have obtained the agrégation or the teacher's certificate and the Adjoints d'enseignement (established civil servants but non-certificated teachers, assistants to a titular teacher). Unqualified teachers are recruited directly by the Ministry or the rector under the exceptional measures at the level of the Education degree.

TABLE 123

Percentage of unqualified teachers in long public secondary education, by sex, broad category of subjects and type of establishment, from 1950 to 1955

Subjects / Year and Establishment	Science			Humanities			Technology (Theory)			Technology (Practical)			Other subjects(1)			Total		
	MF	M	F	MF	M	F	MF	M	F	MF	M	F	MF	M	F	MF	M	F
I. Classical and modern lycées																		
1950	6.2	4.6	8.2	6.5	5.0	8.3	-	-	-	-	-	-	19.0	27	14.0	7.3	6.0	8.9
1955	8.3	6.4	10.5	8.2	5.7	10.8	-	-	-	-	-	-	19.1	20.4	18.1	9.1	7.0	11.3
1960	16.1	14.8	17.6	10.7	7.0	13.9	-	-	-	-	-	-	26.0	13.8	22.5	13.4	10.9	15.7
1962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
II. Technical lycées(2)																		
1950	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
1955	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	20.6	"	"
1960	22.1	24.6	18.6	12.0	10.5	13.1	25.0	22.8	29.2	19.5	18.5	22.5	23.5	28.6	18.8	12.1	10.8	14.3
1962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III. Classical, modern and technical lycées																		
1950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	17.2	16.8	17.5	10.8	7.38	13.8	25.0	22.8	29.2	19.5	18.5	22.5	25.5	31.2	22.0	13.2	10.9	15.4
1962	25.7	25.2	26.1	15.5	10.3	19.5	-	-	-	23.4	23.6	23.0	34.5	34.7	34.4	21.3	19.1	23.3
1963	30.7	31.7	29.1	18.5	13.3	22.1	-	-	-	21.6	21.6	21.6	32.4	29.7	35.0	23.5	21.4	25.3
1965	32.5	35.0	30.0	21.8	17.9	25.1	-	-	-	31.8	32.7	28.6	35.8	34.3	37.3	27.2	25.7	28.6

Source: Calculations based on Tables VII(a) and XIII(a) of the "Study on Teachers - France", op. cit.

1) Artistic and special subjects.

2) From 1960 figures for general and technical education are combined.

The sign " indicates that figures are not available.

The sign - means that no figures exist.

TABLE 124

Percentage of unqualified teachers serving in technical secondary schools (CET)

Subject / Year	Science			Humanities			Technical education (theory)			Technical education (practical)			Other subjects			Total		
	MF	M	F	MF	M	F	MF	M	F	MF	M	F	MF	M	F	MF	M	F
1950	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
1955	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	13.6	"	"
1960	24.6	22.3	28.0	24.0	20.7	27.6	29.3	22.0	34.46	26.4	25.0	30.0	32.4	29.0	33.7	26.4	23.9	30.5
1962	28.5	25.4	33.0	27.55	27.7	32.3	31.2	23.65	35.9	29.46	27.8	34.2	-	-	-	29.37	26.4	43.2
1963	27.9	24.3	33.6	28.9	23.0	34.3	25.4	16.5	31.3	27.3	24.6	35.3	37.8	35.25	39.0	27.7	23.8	34.1
1965	34.5	30.5	40.7	39.8	31.9	46.6	20.9	22.9	36.4	32.4	29.7	41.0	41.7	48.1	37.7	33.9	29.7	40.8

Source: Table XIII(a) Annex III of "Study on Teachers - France", op. cit.

c) Teachers in CET's

Whereas the trend of enrolments is in conformity with the estimates in the Plan, the shortage of teaching personnel seems very considerable - in the region of 24 per cent. It is less serious for practical instruction than for general and theoretical technical instruction, as recruitment to the Ecoles normales nationales d'apprentissage (ENNA) (national colleges for training teachers for the Centres d'Apprentissage) lags very far behind requirements owing to the lack of candidates. As teachers of practical subjects are recruited from among persons already working in industry, the shortage is naturally less serious. This was, however, one of the first branches in which Délégués ministériels were designated and the number of extra hours taught was particularly high (5 to 6 hours per week).

Despite this, deficiencies are qualitative as well as quantitative:

- The problem of the staffing rate

In view of the diversity of teaching staff in the CET, one can refer to only an overall staffing rate which has little meaning since the pupil/teacher ratio varies considerably according to the subject. The trend is nevertheless unfavourable falling from 15.07 in 1955 to 16.48 in 1962.

- The problem of qualified and unqualified teachers

Table 124 shows the trend in the percentage of unqualified teachers employed in the CET, by sex and subject. The average number of unqualified teachers is between one-quarter and one-third of the total number of teachers per subject.

d) University teachers

Here again there was a very considerable shortage of teaching staff, particularly in science. It was in fact in the humanities and science faculties that student enrolments were most in excess of estimates, particularly at the end of the period of the Plan. The result was a deterioration in the staffing rates, especially as it is even more difficult at this level to increase the stock of teachers rapidly. But it was under the Fourth Plan that the greatest effort was made to improve the conditions of university education.

In the course of the implementation of the Third Plan, therefore, the shortage of teachers was eliminated at primary level but developed at secondary level, and the population growth began to be felt in higher education. The considerable effort made to deal with this situation was made at the cost of a deterioration in teachers' qualifications (a more or less permanent deterioration owing to the measures to establish unqualified teachers) and in teaching conditions (overcrowded classes), and these factors will have a considerable long-term influence on the output of the system. Care was taken, however, not to reduce the spontaneous demand for education.

The extent of requirements was so considerable that a shortage was inevitable. However, since it would obviously take time to eliminate it, one can only wonder at the long "reaction time" of the teacher training institutes which failed to follow demand sufficiently closely with the result that at the secondary and higher education levels the difficulties increased during the Fourth Plan.

2) Period of the Fourth Plan (1960-61 - 1964-65)

Table 125 shows that performance was in excess of estimates except in long secondary and in higher education (particularly in science), although even there the deficits were small. But these surpluses should not mislead us as during the whole period enrolments exceeded estimates at all levels: while the difference was small for age groups for which school attendance was compulsory, it tended to increase in the second cycle of secondary and in higher education. On both sides, therefore, the forecasts were not fulfilled. It is important to know by what methods adjustments could be made.

a) Teachers in nursery and infant schools

The number of teachers exceeded estimates by about 6 per cent in 1966-67 and enrolments by 21.8 per cent. Apart from the fact that teachers in pre-school education tend to be less well qualified owing to the increasing proportion of auxiliaries in this sector, the uneven growth in numbers on either side leads to a deterioration in the staffing rate which is a serious threat in this type of schooling.

b) Elementary and terminal classes

At this level staff numbers were very much in excess of forecasts. Enrolments in the elementary classes show little change, but those in terminal classes were much higher than estimated owing to the delay in introducing the observation cycle. The surplus must not therefore be misinterpreted.

But in the case of elementary education there was another very important factor to be taken into account: internal migration. This produced a combination of very small classes and of new requirements due to the development of urbanisation. The national staffing rate adopted could consequently not be adapted to the real situation and it proved necessary to create many new posts. The recruitment policy introduced during the Third Plan was effective, and while increased requirements raised a financial problem there was no longer any problem at the level of recruitment where the supply of future teachers remained plentiful.

c) Teachers in Collèges d'enseignement général

Here, too, numbers exceeded estimates, but at the same time the enrolment rate in the short cycle of general education was considerably increased. The situation was adjusted by the transfer to secondary education of a large number of primary school teachers who were subsequently established in their posts until such time as the holders of the new certificate for teachers in the CEG (CAP - CEG), created in 1960, were trained. Graph V clearly shows, moreover, that taking primary education and the CEG together, the trend is towards equilibrium owing to the large stock of primary teachers.

d) Teachers in long classical, modern and technical education and teacher training colleges

Whereas pupil enrolments at this level were roughly as forecast, in the case of teachers equilibrium was achieved in the final stages of the implementation of the Plan.

It was in fact during the Fourth Plan that the whole recruitment policy introduced at the beginning of the Third Plan produced its results. Certain deficits remained, but only in a few subjects such as mathematics and classics. This considerable effort was made at the cost of a substantial increase in teachers' work owing to overcrowded classes, as was shown by the work of the Commission d'études pour l'amélioration des conditions du travail scolaire (Study Commission for the Improvement of Working Conditions in

TABLE 125

Comparison between forecasts and actual numbers of teachers

Fourth Plan

		Nursery and Infant	Elementary and Terminal	CEG	Total Primary and CEG	CET General	CET Practical	Total CET	Classical, modern and technical Lycées (LCMT) General + Ecoles Normales	LCMT Practical	Total LCMT + Ecoles Normales	Total University	Science	Humanities	Law	Medicine	Pharmacy
1960-61	Actual numbers	26,450	176,975	22,948				13,837	41,995	3,994		7,901	3,632	1,150	717	1,842	560
	Forecasts	26,450	170,285	22,947	225,638				40,040			8,496	3,719	1,151	1,141	2,095	390
1961-62	Actual numbers	26,518	178,214	25,171	247,618	6,915	7,827	14,710	46,748	4,267		10,401	4,413	1,371	787	3,232	598
	Forecasts	27,550	173,000	25,900	234,060	7,351	7,930	15,281	45,050			10,596	5,755				
1962-63	Actual numbers	28,695	186,945	32,118	260,255	7,496	8,525	16,021	51,881	4,623		12,327	5,225	1,602	894	4,006	600
	Forecasts	28,650	176,400	28,250	242,380	8,076	8,635	16,711	50,120			11,415	6,190				
1963-64	Actual numbers	29,750	190,003	35,110				17,660	56,801	4,969		15,098	6,107	1,970	1,109	5,140	772
	Forecasts	29,750	179,400	30,210	250,360	8,873	9,570	18,443	55,250			12,177	6,732				
1964-65	Actual numbers	31,095	191,053	38,670	262,070	9,230	10,391	19,621	60,975	5,184		16,899	6,935	2,415	1,288	5,370	891
	Forecasts	30,850	182,000	31,970	258,270	9,702	10,465	20,167	60,070			13,454	7,432	3,650			585
1965-66	Actual numbers	32,360	193,123	41,264		10,246	11,246	21,492	60,326	5,523		18,497	7,772	2,730	1,430	5,572	993
	Forecasts	31,950	184,200	33,380	265,180	10,464	11,285	21,748	64,770			14,840	8,233				
1966-67	Actual numbers	34,906						22,942	67,098			19,905	8,274	3,186	1,546	5,829	1,070
	Forecasts	33,050	186,000	34,390	272,250	11,299	12,180	23,479	70,590				9,110		1,758		
1967-68	Actual numbers																
	Forecasts	34,050	186,800	34,520	279,180	12,022	12,965	24,987	71,730				10,000	4,522	2,418		
1968-69	Actual numbers																
	Forecasts	35,250	187,600	35,100	283,320	12,784	13,715	26,499	74,150				10,644				
1969-70	Actual numbers																
	Forecasts	36,350	188,400	35,760	286,750	13,218	14,250	27,468	76,385			28,614	11,433	4,826	2,730	8,650	975
1970-71	Actual number																
	Forecasts	37,450	189,200	37,100	289,610	13,446	14,500	27,946	78,500								

Source: Report by the Commission for School, University and Sports Equipment of the Fourth Plan and Informations statistiques of the Ministry of Education.

Schools) which met in 1964(1). At the same time Table 123 (cf. 1 above) shows that while the standard of qualifications of teachers at this level was adversely affected by the shortage, the increase in the proportion of unqualified teachers tended to slow down from 1963 onwards.

e) Teachers in secondary technical schools (CET) (cf. Graph VI)

It is difficult to interpret this graph if one considers the situation resulting from the implementation of the Third Plan. If we assume that the recruitment policy referred to above was successful, the actual facts on which the forecasts are based should be different. Furthermore, little is known of real staffing rates in the CET, and the basic assumptions varied from one Plan to another. In these circumstances it is impossible to form a judgement. Table 124 (cf. 1 above) gives an idea of the percentage of unqualified teachers at the end of the period of implementation of the Plan.

f) Teachers in higher education (cf. Table 126)

Although enrolments in humanities, and in law especially, were far in excess of estimates, a very considerable effort was made at this level during the Fourth Plan by a complete revision of staffing standards.

The solution adopted was not to increase classes in higher education but to increase the number of study groups in the Faculties of Humanities and Law and groups for practical work in science led by assistants under the direction of a professor. There was consequently a need for a large number of young assistants preparing the doctorate or agrégation. But recruitment within the faculties, with the exception of the Faculties of Law, Medicine and Pharmacy, very soon proved inadequate (even in the science faculties which called on the services of a large number of students from the IPES or secondary school teachers training institutes).

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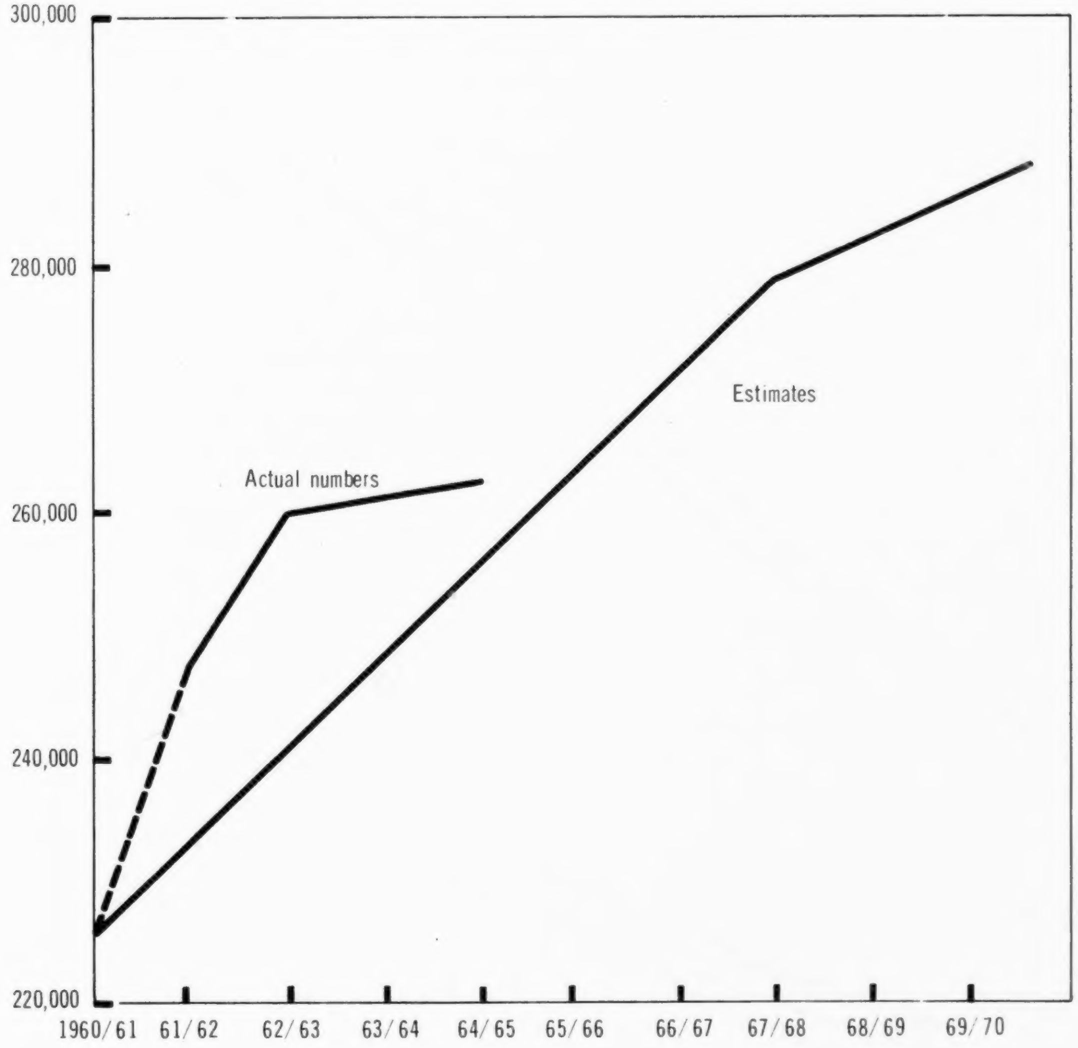
1) Cf. Chapter III of the report on France in "Study on Teachers, France-Ireland" Document Series, OECD, Paris, 1969.

Graph V

COMPARISON OF ACTUAL NUMBERS AND ESTIMATES

Teachers: Total Primary and C.E.G. - Period of the Fourth Plan



Graph VI

COMPARISON BETWEEN ACTUAL NUMBERS AND ESTIMATES

Teachers in the C E T - Period of the Fourth Plan

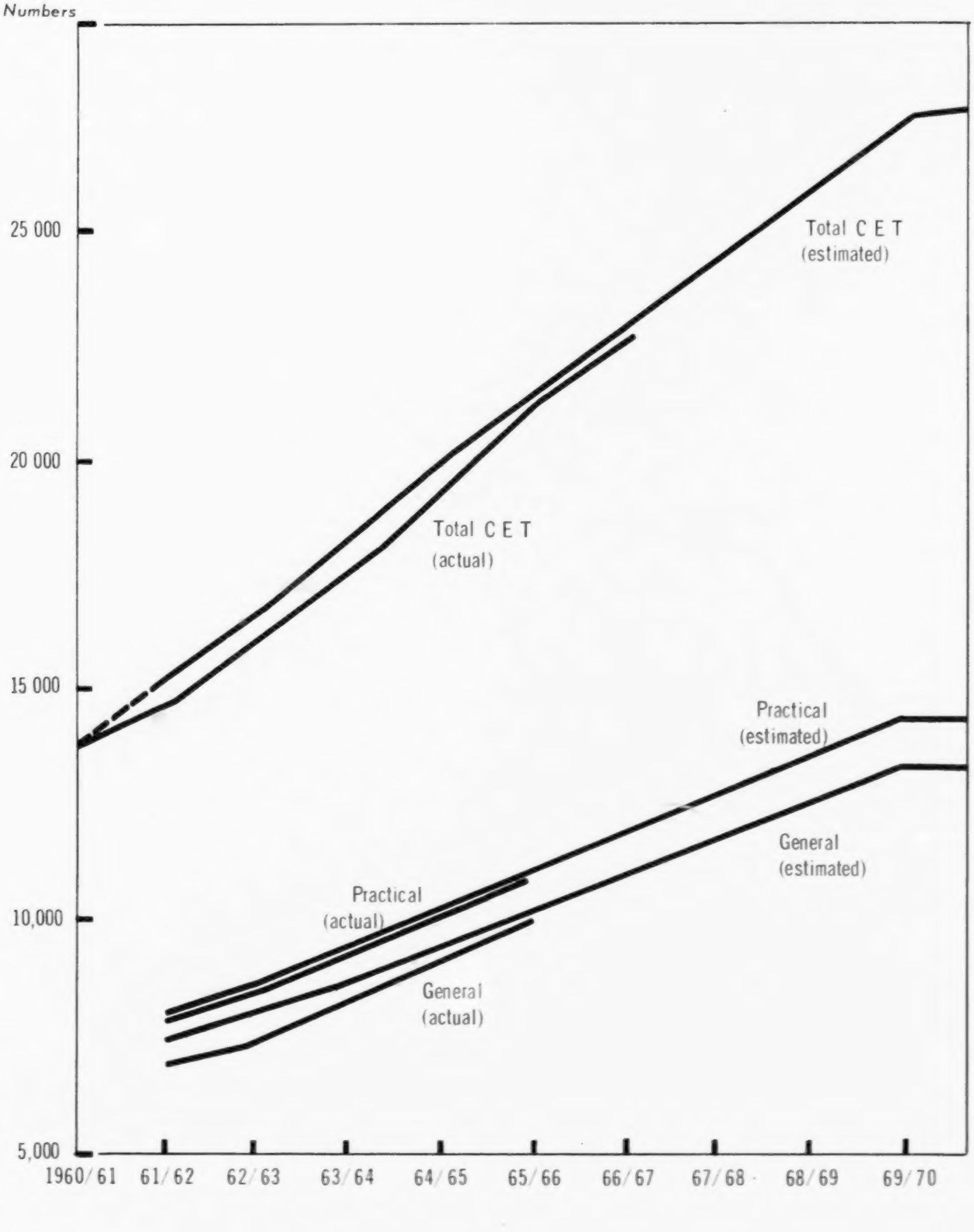


TABLE 126

Trend of university teaching staff

Public education

	Professors (holding professorships or on a personal basis					Readers and "agrégés"					Assistant lecturers, demonstrators and assistants					TOTAL
	L	H	S	M	P	L	H	S	M	P	L	H	S	M	P	
1928-29	198	163	192	-(1)	-	24	70	76	-	-	-	45	246	-	-	1,014
1949-50	222	224	194	-	-	41	155	509	-	-	-	132	928	-	-	2,205
1955-56	(2)	(3)	(3)	-	-	(2)	(3)	(3)	-	-	70	(3)	(3)	-	-	2,477
1957-58	261	266	312	717(4)		130	288	417	546(4)		131	255	1,196	813(4)		5,332
1960-61	285	293	394	749(4)		192	360	674	638(4)		240	497	2,564	1,015(4)		7,901
1962-63	310	309	468	607	142	220	429	796	1,029	120	364	864	3,961	2,370	338	12,327
1963-64	330	330	498	681	154	251	502	878	1,150	128	528	1,138	4,731	3,308	490	15,097

Source: Statistics given in this table were provided by the Directorate for Higher Education.

N.B. L: Law - H: Humanities - S: Science - M: Medicine - P: Pharmacy.

University staff includes:

- professors;
- readers and "agrégés";
- assistant lecturers;
- demonstrators and assistants.

The table does not therefore include: associate professors, foreign readers in Faculties of Humanities, lecturers responsible for practical work in the Faculties of Law (often appointed from outside) and instructors. These are, finally, posts in the Universities, and do not include staff of the "grands etablissements d'enseignement supérieur" (higher education establishments).

These statistics relate to the five faculties: Law, Humanities, Science, Medicine and Pharmacy.

1) Figures uncertain.

2) Professors and "agrégés" combined: 333 in Law.

3) In 1955-56 teaching staff (professors, readers and "agrégés", assistant lecturers, assistants) totalled 666 in Humanities and 1,406 in Science.

4) Medicine and Pharmacy combined.

Agrégés serving in secondary education were appointed by a transfer procedure to posts in the Faculties of Humanities and Science.

TABLE 127

Changes in the structure of the teaching staff in the faculties of humanities and science since 1960

	1960-61	1961-62	1962-63	1963-64	1964-65
Faculty of Humanities					
- Senior lecturers (doctors)	653	683	738	832	903
- Lecturers and assistants (3rd cycle)	497	688	864	1,138	1,493
Total	1,150	1,371	1,602	1,970	2,396
Faculty of Science					
- Senior lecturers (doctors)	1,068	1,186	1,264	1,376	1,484
- Lecturers and assistants	2,564	3,226	3,961	4,731	5,417
Total	3,632	4,412	5,225	6,107	6,901

Source: Opinion of the Commission of the National Assembly on Cultural Family and Social Affairs concerning the Finance Bill for 1965.

This table shows the effort made in higher education to improve the staffing rate for the increasingly large number of university students, mainly during the first years. It is, however, rather difficult to determine the number of agrégés appointed for this purpose. One may nevertheless estimate the number of transfers by comparing the number of candidates obtaining the agrégation in humanities and science and the increase in the number of agrégés in secondary education since 1960.

TABLE 128

Comparison of increase in agrégés in secondary education and the number of candidates obtaining the agrégation

Year	Candidates obtaining the agrégation	Increase in agrégés in secondary education
1960	801	+ 254
1961	932	+ 288
1962	1,010	+ 440
1963	947	"
1964	963	"
1965	994	"

Source: Ministry of Education, Statistics Department.

Despite the lack of complete statistics, there is undoubtedly competition between secondary and higher education for the services of agrégés. And since a certain number of certificated teachers pass the agrégation, each examination means a loss of qualified teaching staff for secondary education. When reforms were introduced at the beginning of March 1966, the governmental authorities showed their approval of such transfers by maintaining the competitive examination and reserving the best of the successful candidates for higher education.

In short, in the implementation of the Fourth Plan the tendency was for the shortage to be reduced and to remain stablised at all levels, except in the humanities faculties, and to be limited to a few specific subjects.

3) Period of the Fifth Plan (1966-67 - 1970-71) (cf. Table 129)

The Commission for School, University and Sports Equipment published a progress report (December 1968) giving an idea of the situation mid-way through the period.

a) Primary education

As can be seen from the table showing the new posts created, a considerable effort has been made but a number of new posts in primary education are used in the first cycle of secondary education. The Ministry has recently defined new staffing standards (25 pupils per teacher in preparatory classes and 30 in other classes instead of 35) which will increase requirements, despite the faster closing of classes (20,638 between 1964 and 1968 instead of the estimated 8,000 between 1964 and 1972). The number of substitute primary teachers would be only 4,000.

b) General teachers in the first cycle of secondary schooling

A large number of new posts has been created (Table 130). It is not certain that they will always be held by qualified staff. Between 1965 and 1968 only 1,675 teachers could be recruited for the transition and terminal practical classes and 8,729 teachers for the CEG, although 17,645 new posts were created. (Cf. Table 42.)

c) The short second cycle

The Fifth Plan contained no estimates concerning staff, but the increase in posts provided for in the budget, namely 58.07 per cent, is still less than the increase in numbers, 61 per cent between 1964 and 1969.

d) Special subject teachers in the first and second cycle of secondary education

The total number of posts created (Table 132) is less than estimated. This slows down the appointment of certificated teachers to CES's. As concerns recruitment by subject, the shortage is becoming more serious, particularly in mathematics, owing to the inadequate number of candidates, so that the development of scientific education in the second cycle is slowed down even further. These two problems (one financial, the other structural) are a serious obstacle to the reform.

e) Teaching personnel in higher education

A large number of posts has been created (cf. Table 130) and many more will be created but, in any case, the number must certainly exceed the estimates in the Plan.

The 1969 Budget provides for many new posts. At certain levels (secondary education), however, it is possible that the fact that enrolments are smaller than estimated may lead to a relaxation of the effort; but this would mean disregarding

TABLE 129

Forecasts and actual numbers of teachers

Fifth Plan

		Pre-school	Elementary	CES/CEG	1st Cycle LCMT	2nd Cycle LCMT	Total LCMT	Total University	Science	Humanities	Law	Medicine	Pharmacy
1965-66	Actual numbers	32,360	193,123	45,056			63,817	18,500	7,783	2,724	1,429	5,576	988
	Forecasts	33,466											
1966-67	Actual numbers	34,906	194,915	47,561			65,001	19,905					
	Forecasts	35,197											
1967-68	Actual numbers												
	Forecasts	36,733											
1968-69	Actual numbers												
	Forecasts	38,571											
1969-70	Actual numbers												
	Forecasts	40,388											
1970-71	Actual numbers												
	Forecasts	42,169											
1971-72	Actual numbers												
	Forecasts	43,991											
1972-73	Actual numbers												
	Forecasts	47,300	191,000	57,680	57,264	38,235	95,517	37,435	16,000	5,870	3,310	10,715	1,640

the effects of current reforms: reduction of staffing rates in primary schools and of the limits beyond which secondary classes may be divided into double sessions, more work in small groups, continuous marking in higher education, etc. All this will increase requirements. Moreover, actual recruitments (through the training institutes) are lagging behind the creation of new posts: the result is that a number of posts are given to people without the corresponding special training. This does not make for an improvement in the general level of teachers' qualifications.

C. Comments

Several comments may be made to conclude this study of personnel forecasts and the extent to which they have been realised.

Generally speaking, forecasts of student enrolments or numbers of teachers, or both, have not tallied; yet they depend directly on each other. The main explanation as far as teachers are concerned is undoubtedly the shortage which was the main feature of the Third and Fourth Plans. It now seems to have been made good which is a feat in itself, although this was achieved more by the creation of posts (financial effort - cf. Table 130) than by a systematic recruitment policy which could have been more closely integrated in the Plan. The adjustment was made by means of expedients such as parallel recruitment leading to establishment in a post, transfers of certain categories of teachers through various levels of education (primary school teachers and agrégés) or direct financial assistance.

Notwithstanding this criticism, it is evident that the size of the deficit, which was in fact inevitable, has distorted the problem as a whole.

However, the fact remains that even from the strictly quantitative point of view present methods of forecasting are very inadequate and certainly do not make it possible to use statistics of the teaching profession, regarded as one of the resources of the system, as an element in the planning process. Since the system develops spontaneously (teachers being products of the education system), simple recruitment forecasts based on staffing rates determined in the abstract, at national level, in the light of criteria which are not clearly defined and without any specific action to influence training structures, will not provide a body of teachers corresponding to the actual requirements of the system. In Section II which follows the problem is looked at from a more qualitative angle.

TABLE 130

Annex Fifth Plan: Creation of posts under the Budget

	Total new posts to be created under the Plan(1)	New posts (1965)(2)	New posts (1966)(2)	New posts (1967)(2)	New posts (1968)(2)	New posts (1969)(2)	Total new posts(2)	Total new posts as percentage
Pre-school and elementary education	24,712	865	3,145	1,988	3,749	7,922	17,669	71.5
Special education (primary class teachers)(5)	13,250	600	1,000	1,426	2,686	1,841	5,511	41.6
First cycle (general teachers)	24,937(3)	4,300(3)	3,250(3)	3,580(3)	2,595(3)	3,920(3)	17,645(3)	70.7(3)
First cycle, long second cycle - preparatory classes (special subject teachers)	33,642	3,100	2,950	3,327	3,757	5,463	18,597	55.3
Higher education (all categories)	19,000	-	1,450(4)	3,565(4)	2,210(4)	7,126(4)	14,351(4)	75.5(4)

1) Period 1965-1972 for higher education. Period 1964-1972 for other levels of education.

2) Including posts to be created in the Overseas Departments which are not included in the personnel forecasts in the Plan but represent only a small percentage of the total.

3) Including directorships which are not included in the estimates of the Plan.

4) Including posts in higher technical education (IUT) (University Institutes of Technology) which are not included in the estimates of the Plan.

5) The report by the "Inter-group" on handicapped children reduced to 11,438 the number of primary teacher posts to be created in special education. 48 per cent of these posts have actually been created.

The creation of posts under the Budget and recruitment of teachers are proceeding at the appropriate rate and it will probably be possible to achieve the figures called for in the Plan by 1972.

In higher education the number of posts created will certainly exceed estimates; in the first cycle, second cycle and the classes preparing students for the "Grandes Ecoles" the differences in the number of posts created can be explained by the fact that student enrolments were less than estimated.

In the case of special education, the need to train qualified teachers makes it impossible to reach the targets of the Fifth Plan immediately.

TABLE 131

Implementation of the Fifth Plan

General teachers in the 1st cycle (teachers in the CEG, teachers of transition and terminal practical classes); recruitment between 1965 and 1968

Total number of general teachers in 1972. (Plan page 114, paragraph 6 in fine)	Total number employed in 1965 still serving in 1972. Section II paragraph B	Estimated annual average recruitment Plan, page 115 in fine	Annual average recruitment between 1965 and 1968
57,680	26,200	31,500 : 8 = 3,950	10,404 : 4 = 2,600

Notes: When the number of general teachers needed was estimated in 1965, an overall calculation was made without distinction between:

- teachers for CEG;
- teachers for transition classes;
- teachers for terminal practical classes.

The breakdown was made only on the basis of initial origin and training, i.e. primary school teachers.

Since then this work has been carried further and a breakdown has been established between the different teachers.

Preliminary estimates of needs for 1972-73 are:

- 32,000 teachers in the CEG;
- 26,000 teachers in the transition and terminal practical classes, i.e.
  13,000 teachers for transition classes, and
  13,000 teachers for terminal practical classes.

As the number of teachers of transition classes and terminal practical classes is at present less than 2,000 it can be seen that the recruitment effort to be made during the coming years must be concentrated mainly on these two categories of teachers (theoretically over 20,000).

TABLE 132

Implementation of the Fifth Plan

Actual recruitment of secondary teachers between 1965 and 1968

(Agrégés - certificated and similarly qualified teachers - assistant teachers)

Subject	Forecasts in Plan Annual average	1965	1966	1967	1968	Total	Actual annual average
Mathematics	1,688	582	695	751	857	2,885	721
Physical sciences	903	649	711	614	777	2,751	688
Natural sciences	168	337	340	215	378	1,270	318
Philosophy	161	175	178	165	222	740	185
Classical Humanities	817	353	470	473	828	2,124	531
Modern Humanities (and grammar)	1,064	349	448	527	808	2,132	533
History and Geography	942	463	473	468	919	2,323	581
Modern languages	939	1,008	933	890	1,737	4,568	1,142
Art	396	85	89	103	94	371	93
Music	297	46	40	60	70	216	54
Educational handwork	283	20	36	23	50	129	32
Mechanical engineering	367	60	54	72	195	381	95
Economic management techniques	157	84	123	95	235	537	134
Total recruitment	8,211	4,211	44,590	4,450	27,170	20,427	5,107

1) Average annual recruitment

TABLE 133

Trend in pupil and student enrolments

Public education

('000)

	Pre-school education	Elementary education (1)	1st cycle (2)	2nd cycle Classical and Modern	Long(3) Technical	Beyond the 2nd cycle (4)	Short vocational education (5)	Teacher training colleges	Univer-sities	TOTAL
1958-59	1,094	4,825	870	184	60	20	219	24	186	7,482
1959-60	1,102	4,975	973	207	69	22	234	25	195	7,802
1960-61	1,172	4,970	1,083	232	78	26	255	29	203	8,048
1961-62	1,221	4,955	1,202	265	87	28	273	30	233	8,294
1962-63	1,307	4,977	1,303	313	109	32	310	31	271	8,653
1963-64	1,359	4,809	1,461	352	134	36	336	31	326	8,844
1964-65	1,436	4,872	1,406	381	156	40	364	36	363	9,054
1965-66	1,507	4,826	1,478	401	166	44	416	36	391	9,265
1966-67	1,599	4,768	1,600	422	177	48	442	36	463	9,555

Source: Ministry of Education: Department for the Budget.

1) Elementary classes + special and terminal education + primary classes in classical and modern "lycées".

2) "6e" to "3e" in classical, modern and technical "lycées", the CEG and the CES from 1963-64.

3) "2e" to terminal classes (Baccalauréat + the technician's baccalauréat of the "lycées").

4) Classes preparing students for the "Grandes Ecoles" higher technicians' sections and various preparatory classes.

5) CET and specialised sections of CEG, CES.

TABLE 134

TREND IN BUDGETARY ESTABLISHMENT OF STAFF EMPLOYED IN EDUCATION

Category / Year	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Creation of posts	29,164	27,344	22,678	18,696	27,000	35,220	29,949	20,185	21,379	24,631(1)
Total posts including	367,243	394,587	417,265	435,961	462,961	498,181	528,130	548,315	569,694	594,342
Primary school teachers	194,000	199,900	204,000	204,600	214,000	220,000	225,400	226,800	230,900	234,000
Teachers in C.E.G.	21,000	23,700	27,200	31,600	30,000	35,300	38,000	42,300	45,500	49,000
Teachers in C.E.T.	12,400	13,000	14,000	15,000	17,150	18,800	20,700	22,700	24,400	26,600
Teachers in "lycées"	45,800	49,500	53,500	56,100	63,800	68,700	73,300	75,400	79,300	82,600
University teachers	5,800	6,600	8,300	9,800	13,600	16,150	17,700	19,300	20,700	23,600

Source: Ministry of Education - Department for the Budget.

(1) Including 18,180 teachers out of 32,000 new posts created under the 1967 Finance Act. 24,631 (or 75 per cent) are reserved for Education.

II. QUALITATIVE POINT OF VIEW

If we look at the question from the qualitative point of view, we see that there is a fundamental problem which has not been solved: the definition of the "product" obtained as a result of the working of the education system.

Until very recently educational planning was geared only to demand without taking into consideration the resources of personnel trained by the system.

In spite of the reforms which have reorganised all types of education and despite the prospects opened up by the Fifth Plan, and particularly the work of the Intergroup on Occupational Training and Up-grading, there is no explicit definition of the personnel to be trained (or to what end) for the different levels and types of education, either for the system as a whole or for the various fields of teacher training.

A few specific measures, however, were introduced at the same time as the different reforms; one example was the creation of certificates for teaching in the CEG at the time of the extension of short secondary education and the introduction of the two-year observation period. A more interesting development was the creation by Decree of 9th August, 1966, of certificates for teaching the transition and terminal practical classes in the first cycle of secondary education. This training, which is open to primary school teachers, calls for special educational training based on activity methods to take into account the specific objectives of these classes. The transition and terminal practical classes created by the Education Act of 1963 in the CES or the CEG, are intended for pupils who have no inclination for abstract studies but who have entered the four-year orientation cycle as a result of the raising of the school-leaving age. So that the orientation cycle should not be a waste of time for this category of pupils, who, if the reform had not taken place, would have entered the terminal classes of the primary cycle, a specialised method of teaching was defined in the Instructions of 10th September, 1963.

This was a special combination of basic general education and practical education (about half the hours of attendance), the aim being to develop the pupils' adaptability to concrete situations; starting from an experimental attitude the pupils are led on to abstract concepts. For the first time, therefore, the following procedure was adopted: introduction of a certain type of education in the context of a more general reform --→ definition of the specific objective of this education --→ definition of the content of education and the teaching methods used --→ provision of special training for teachers.

Although these decisions are admittedly important, they remain very fragmentary and are isolated examples in comparison with the number and importance of the decisions taken since 1959. Consequently, as there has been no prior definition of the qualitative objectives of the education system nor any thorough revision of the content of the various types of education, teaching problems in the strict sense, and, as a result, problems of the utilisation and training of teachers, have never been stated or reviewed in a global context in the light of changes in the system. Thus, the series of reforms affecting education in France since 1959 constitute a kind of reclassification of the various types of education in relation to each other, the aim being to satisfy and guide the spontaneous demand for education at all levels. For example, all types of higher education in the university have been reorganised in successive cycles corresponding to academic levels of training, in preparation for a considerably more extensive and to some extent modified form of a higher education system. However, higher education produces various categories of graduates and, in particular, two categories of persons: those looking for jobs outside the system, at all levels in the various fields of economic activity, and a majority of teachers who will stay within the system. As the reform did not take account of this distinction, the problem of teacher training was dealt with afterwards and, naturally, does not fit into the overall pattern (in this connection the problem of the Faculties of Medicine is a special case; and, as we saw in Book II, the solution adopted, though not perfect, was more satisfactory).

In these circumstances, as was seen under I above, planning of the demand for teaching personnel (recruitment needs) is totally inadequate both from the point of view of the method used and because no consideration has been given to the problem of the utilisation of such personnel in the light of changes in the system, nor to training structures enabling teachers to accept and adjust to these changes.

A. The Significance of Staffing Rates and of the National Standards as a Basis for Determining the Number of Teachers Required at Each Level

We have seen (cf. I above) that the forecasts of the requirements of teaching personnel are made by applying directly to enrolment forecasts the staffing rates or teacher/pupil ratios(1) which are determined at national level and which are consequently ill-adapted and ineffective.

1) Staffing rates are ill-adapted

These are determined more or less arbitrarily in the light of estimates concerning the possibilities of the training system, the study of actual practice and implicit teaching norms. It seems, finally, that they depend on what is feasible from the point of view of teachers and finance. Staffing rates have moreover varied over time during the preparation of the last three Plans; for example, in elementary primary education, the Fourth Plan provided for a reduction in the rate from 28.5 in 1960-61 to 21 in 1970-71. The Fifth Plan then decided that for new classes the number of pupils per class would be 35, while the new standards recently defined by the Minister for Education reduces it to 25 for preparatory classes and 30 for the other four years. As there has been no change in the content or methods of education during the period 1960-61 to 1967-68, it is difficult to see on what criteria the variations are based; moreover, since 1962-63 there has been no shortage of primary teachers(2).

The fact remains that staffing rates have a normative character and presuppose the homogeneity of the educational units to which they apply, even if the breakdown into educational units is rather fine, as in the case of higher education in the universities in the preparation of the Fifth Plan.

However, experience shows that, in practice, requirements with regard to the pupil/teacher ratio vary, within the same precisely defined educational level, from one establishment to another, from one discipline to another, and within the same discipline, depending on the type of instruction (basic classroom instruction, practical work, tutorials, etc.). To illustrate these various points we shall take the example of the staffing rates applied in the preparation of the Fifth Plan.

- The actual staffing rates vary from one establishment to another. Such is the case in elementary education where large-scale migration leads to the coexistence of very small classes (the minimum closing level being 16) and overcrowded classes. As a

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1) Staffing rates apply to general teachers while teacher/pupil ratios are used for special subject teachers.

2) Admittedly primary teachers are not confined to primary education.

result, the definition of a national norm (in this case 35 pupils per class) with the same staffing rate for the stock of 142,500 existing classrooms corresponds, at this level, to an under-estimation of actual needs. Moreover, at the same time and for the same reasons, the number of elementary classrooms built under the Plan is, of necessity, more than the number provided for. The result is that actual conditions of work in schools differ considerably from one establishment to another at the same level of education.

- The actual staffing rates vary according to the discipline. This is true, in particular, of short vocational education and the third cycle of higher education and also specialised study for the maîtrise (master's degree).

As concerns short vocational education, no staffing standards are laid down in the Fifth Plan as the second short cycle was not yet sufficiently well defined for forecasts to be made. In earlier Plans teacher/pupil ratios were extremely imprecise owing to the number and diversity of specialities. For training in work-shops, for example, the great variety of pupils and specialisations led the Ministry of Education to select 15 as the average number of pupils (groups vary from 5 to 26 pupils). The position is the same for higher education where a given course of study for the maîtrise or a special line of study in the third cycle cannot be cancelled on the grounds that the number of students wishing to follow it is below the norm laid down in the Plan. And it is quite obvious that educational units or groups cannot be the same size, either because of the students' choice of subjects or owing to the inadequacy of intake capacity(1).

- Finally, within the same discipline (especially the scientific disciplines) actual needs with regard to the staffing rate vary according to the type of education. For example, in the first cycle of secondary education, Modern Section II, where teachers are non-specialised, instruction consists of a lecture or theoretical discourse which can be given to a relatively large number of students (30 in the Fifth Plan but the number could in fact be higher) and a certain amount of supervised work calling for double sessions where classes are overcrowded (over 24 pupils). But since the Commission found it difficult to determine the number of double sessions and also to include in this calculation hours of supervised work, it preferred to adopt the general ratio of 25 pupils per class. It is quite obvious that this ratio is only an administrative norm which cannot correspond to real needs.

These few examples do not cover all the staffing rates used in the Fifth Plan, a critical study of which would be long and tedious, but they are sufficient to show that rates adopted at national level cannot determine actual needs but only orders of magnitude.

2) The staffing rates used are consequently ineffective as a planning instrument

These norms cannot in fact be observed in practice. There are two possible situations:

- Total enrolments at a given level of education are in conformity with forecasts: certain staffing rates determined for a given number of pupils will in practice be

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1) The problem is the same for options in the second cycle of long secondary education. It is by definition somewhat difficult to determine in advance how students will choose between optional subjects.

applied to a much smaller number (options in the long second cycle, special subjects in the old short cycle of vocational education, and special subjects in the second, or maîtrise, and third cycles of higher education). This situation is by no means general and it is to be hoped that these favoured units, enjoying exceptional conditions in this respect, will make the most of them. But it is easy to see that if for a given level the total number of students is divided into educational groups of equal size, the existence of a certain number of smaller units will lead, by transference, either to an increase in the numbers in other units (overcrowded classes and deterioration in teaching conditions), or even to an increase in the number of other units; the number of teachers actually needed is then higher than estimated.

- Total enrolments in one level of education are higher than forecast (demand underestimated, percentage of repeaters wrongly estimated, etc.)

These factors react on each other and their effects tend to be cumulative.

The means used to determine teacher requirements, and hence teacher recruitment policy, are therefore ineffectual from two points of view:

a) In the short term and strictly from the point of view of implementation of the Plan, the Ministry of Education cannot control the creation of posts. As the rectors are obliged to organise school administration according to the actual situation in their academy, they make requests for the creation of posts and these are included in the supplementary budget(1). For a number of years past (according to the information given by the Budget Department of the Ministry of Education) all these posts, for which there was no provision in the budget estimate for the financial year, had the effect of absorbing in advance the new posts to be created under the following year's budget. The result is an increase in the budget which was not expected and which may have repercussions on investment policy as the decisions of the Ministry of Finance limit the overall appropriations for the Ministry of Education. Levels may even be reached at which demands are so great that choices have to be made, and if the increase in the operating budget is too far in excess of forecasts some projects will have to be postponed, even at the risk of limiting capital expenditure, with the result that the investment plan will be under-implemented.

b) In the longer term, and in particular as regards the expansion of the teaching staff, such a practice encourages the expedient of day-to-day job creation to the detriment of a genuine recruitment policy. Indeed, these extra posts are not generally held by established teachers but help to perpetuate the system of parallel recruitment and so lower the level of qualification of teachers as a whole. Thus, the recruitment policy defined by the Plan fails completely to keep pace with actual needs, especially since, for want of structural reforms and adequate intake capacity, the output of the teacher training institutes is generally below the estimates in the Plan.

During a period when enrolment rates are increasing rapidly, the staffing rates applied are in any case unrealistic, even in a system which is structurally stable. But the problem is quite different when it comes to introducing reforms: creating new educational facilities corresponding to new needs (2-year CET, IUT, etc.) or converting education formerly reserved for a minority into mass education (secondary or higher);

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1) Document adjusting the national budget for the current financial year.

here again it becomes necessary to look beyond demand and consider the problem from the point of view of the product of the system, to define new production norms and hence new staffing rates determined in the light of the content and teaching methods best adapted to each type of education and varying with the nature of the establishment, the educational level and the discipline. This implies a fundamental change in the conditions of utilising staff already in service and a renewal of training structures.

B. The Problem of the Utilisation of Teaching Personnel in the Light of Changes in the System

The creation or reform of a type of education presupposes a preparatory stage the object of which is to define the function, objectives and content of the education in question, the teaching methods by which to achieve them, and new norms of production which logically imply a different utilisation of the teaching personnel to be employed; thereafter provision must be made for training these teachers (C of this section)(1).

1) Definition of content

The content of education should depend on two criteria:

- The place of such instruction in the system: the definition of the level of knowledge or of training to be achieved by the recipient (for example, at the end of the period of compulsory schooling, what knowledge should the pupil have acquired?).

- The purpose of this instruction: discovery of aptitudes (orientation cycle), acquisition of general training (long second cycle, universities) or occupational/professional training (CET, IUT, medicine, etc.).

On this basis, it is possible to define programmes and determine the weighting of the various disciplines according to their specific or dominant role: basic disciplines, intellectually stimulating disciplines, discursive disciplines, optional disciplines.

2) Definition of teaching methods making possible the effective acquisition of this content

Here we use as a basis the three stages which are now known of the process of acquisition of knowledge:

- acquisition of basic theoretical knowledge;
- assimilation in small groups, individually or in teams;
- personal, individual or team work.

The order in which pupils pass through these stages depends on the category they are in. In a CES, for example, in a particular subject (mathematics) the order will be reversed for pupils in the transition classes or in the classical section.

In addition, the relative time spent on each stage depends on the discipline (mathematics or natural sciences in the first cycle), the establishment (general or vocational), and the level of education (first to third cycle of higher education).

Finally, the optimum size of the group of pupils for each level, type of education and discipline must be determined (maximum and minimum rather than absolute figures).

Once this preliminary work has been done, we can pass on to the definition of desirable staffing rates.

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1) There are at present no facilities in the universities for fundamental research of this type.

3) Determination of staffing rates to be applied at all the stages defined above

These should be determined for each of the three stages of the learning process since from this point of view the old system, in which a teacher has sole responsibility in his class for all teaching of a given subject by traditional methods, is manifestly out of date. It permits neither the individualisation of teaching (essential in many respects for the application of the reform, both at secondary and higher level) nor any flexibility in the organisation of students' or teachers' timetables.

One of the possible objections to such a system is the danger of an appreciable increase in personnel requirements (hence an increase in operating costs) which would raise new recruitment problems. One must probably expect requirements to increase, but they will do so in any case in view of the trend of enrolments. On the other hand, it seems more rational and more satisfactory for a number of reasons to envisage it from this angle.

In the first place, a preliminary calculation of comparative costs must be made between the cost of equipment and the cost of personnel. The systematic supply of closed circuit television, magnetic tapes, language laboratories, libraries, film libraries, etc. to educational establishments is perhaps less costly that it would appear since such equipment helps to reduce secondary expenditure. Without perhaps seeking to generalise the very systematic experiment of the "audiovisual" CES at Marly, we should remember that one of the results expected is a reduction of 25 to 30 per cent in hours of teaching for the same staffing rate. Strictly from the teaching point of view, moreover, one must not overlook the importance which documentary material has and will have in the future, both in the training of individuals and in working life. The use which is now made of it in its varied forms and the reference frequently made to it by students can be only beneficial and should help considerably in the renovation of methods to test the knowledge and aptitudes of the individual (general problems of examinations).

This being said, there are other arguments in favour of the adoption of new staffing standards defined in accordance with the above criteria. They make it possible to take advantage of a number of characteristics, both good and bad, of the present education system in France which are not likely to change in the immediate future.

a) It becomes possible, in the first place, to make rational use of the great diversity of teachers in secondary or higher education. To give an example, there are at present, in the same establishment, a certificated teacher, an assistant, a teacher holding the certificate for teaching in a CEG and a primary school teacher. They teach the same subject, in principle, according to the same programmes, in classes of the same level but in different sections (e.g. the "6e" class in the CES). A newly graduated assistant teacher will, perhaps, use the school radio and television programmes (a procedure which is sometimes bad for both teachers and pupils)(1). It would be wiser to regroup these teachers into a team, led by the specialist most qualified in the subject, who would divide the work by stages of learning defined after the general organisation of the teaching of the subject at a given level has been worked out as a whole. This would make it possible, from the strictly scientific point of view, to give all pupils the benefit of the services of the best specialist, to provide more homogeneous schooling despite the diversity of sections and, at the same time, to

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1) The audience for these programmes is sufficiently large for them to be taken into account (cf. the Report on the Study on Teachers, France, Chapter VII, op. cit.)

make it more individual and adapt it to the various categories of pupils. This calls for a basic distinction not generally made in the public service in general, or education in particular, between grade and function, a distinction between status and actual responsibilities. For example, weekly working hours may be the same but teaching duties different. This applies particularly to secondary education (some teachers will specialise in fundamental education, others in group work, others in supervising individual work, etc.) and to higher education (certain professors or assistant professors or assistant lecturers will be able to do more hours' teaching and less research, or vice versa). Such an arrangement is a factor of flexibility which always makes it easier to adjust needs to resources.

b) In addition to the diversity of recruitment, qualifications and training, one of the characteristics of the teaching profession today is the considerable degree of hierarchical organisation. This being so, the creation for each subject of genuine departments at the different levels of education would make it possible to offer the various teachers in the department possibilities of internal promotion at the same level (greater responsibilities within a team), thus preventing the loss of the more qualified teachers to the higher level. For a certificated teacher it can, in fact, be more worthwhile from every point of view to be head of a department in the first or second cycle of secondary education than to pass the agrégation in order to become an assistant in higher education, on condition, of course, that his social and economic status corresponds to the level of responsibility assumed. The hierarchical order would thus be maintained, but would be based on different criteria.

c) Finally, while these staffing standards can be defined centrally, they must actually be applied when estimates are made at establishment level. The reform in fact makes cycles correspond to establishments (elementary schools, CES, CEG, CET, lycées, IUT, etc.). The teaching unit and the place thus coincide, and it is possible, when determining requirements, to foresee the size and composition of these teams of subject teachers at the level of the establishment and in the light of its special characteristics. The result would be the creation within establishments of small units for teaching and applied research, which will undoubtedly improve the quality of instruction and make it easier to adjust needs to resources. It would also have the advantage of attaching the teacher to a given establishment, which is an additional factor of flexibility and avoids the loss of time involved for a teacher belonging to several establishments.

These are no more than a few general ideas which, though they by no means cover every aspect of the problem, suggest a certain number of different possibilities for the utilisation of teachers which have the advantage of fitting into the new structures and, by their greater flexibility, make it easier to adapt resources to requirements and to establish more useful and more realistic forecasts. But it is quite evident that this represents a fundamental change in the teachers' working conditions and entails an entirely new system of training.

C. Creation of Training Structures likely to Make it Possible to Achieve these Objectives

When the reforms were introduced there was no systematic review of the training of teachers at the different levels. Yet the reform of education, both by the far-reaching structural changes which it involves and its consequences from the point of view of teaching, is bound to have a considerable influence on machinery for the training and further training of teachers. In the recent past, measures taken to deal with emergency situations remained fragmentary (and could thus be introduced relatively quickly). The result today is a very complex training system, organised in separate compartments and ill-adapted from the point of view of subject matter.

1) The present training system

Table 121, showing types of education and the teaching personnel assigned to them, illustrates very clearly the complexity and diversity of the training system. For further details on this point see Chapter III of the report on France ("Study on Teachers: France-Ireland", op. cit) which gives a very detailed description of the organisation and present content of teacher training. Only the essential characteristics will be given here.

a) Considerable specificity by level and type of education

From one level to another the diversity of the system lies in the difference in levels of basic training (baccalauréat, propédeutique, licence, maîtrise, agrégation, doctorat). At one and the same level differences in training courses are due either to the need to use a particular teaching method (secondary education, transition classes, CEG or lycée) or to educational requirements specific to certain types of education (general education and vocational and technical education).

These very numerous categories of teachers all have their own particular status which takes into account the special characteristics of the training received. This leads to fairly elaborate distinctions between the different categories of teachers assigned to the same level or to different levels of the scholastic hierarchy. Yet, in practice, these different categories are required to work together in the same establishment (CES, CEG, classical, modern and technical lycées, etc.) which leads to difficulties detrimental to pupils, teachers and the efficiency of the system. Apart from the fact that such a state of affairs is hardly compatible with team work, the need for which (from the technical and pedagogical point of view) was shown earlier, there is in fact no justification for it as the difficulty of a teacher's work does not depend on his place in the educational hierarchy. The best solution would consequently be either to organise all teacher training in four main categories (all compulsory schooling, long second cycle, technical and vocational education, higher education), or to help future teachers who will have different training and status, since they will be fulfilling different and consequently diversified educational functions, to acquire the habit of working in a team in the course of their training in specialised institutes.

b) Predominance of academic training to the detriment of teaching and vocational training

The only important consideration at the time of recruitment is the level of the candidate's academic training. However sound and necessary this academic training may be(1), it is frequently quite irrelevant to the actual needs of the teacher when in his post.

As concerns vocational training proper, where this exists agrégés and teachers in higher education have no vocational training), it is generally inadequate (cf. Ecoles Normales at the present time) and is added, or rather superimposed, at the end of school or university training. Even where it seems fairly well organised,

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1) There can obviously be no question of recruiting teachers who are incompetent in their subject.

as in the Centres pédagogiques régionaux (regional teacher training centres or CPR) which provide post-graduate teaching and vocational training for future specialised teachers in secondary education, this late and relatively short vocational training enters into competition with further academic training (diploma in higher education, now the maîtrise, or master's degree, which is regarded as an initiation into research but which is divorced from what should be the main concern of the trainee teacher or student-teacher: the changing conditions and content of education, etc.

c) Spirit of research sacrificed to the maintenance of traditional education techniques in a changing system

The actual organisation of training courses [CPR courses for trainee teachers or temporary posts with student teachers in the primary school teacher training colleges(1)] is the responsibility of teaching advisers, whose worth is unquestionable but who have been in the profession for a good length of time. These advisers were trained to teach in an education system whose basic characteristics have changed under the influence of social demand for education and reforms (and this is true of both primary education, which has become the first stage of compulsory schooling, and secondary education, which was limited to an élite and has now become accessible to all). There is thus a danger of sclerosis in the teaching profession, which cannot be compensated by the theoretical side of vocational training (non-existent for teachers in long secondary education) as it is, above all, a question of attitude. In most cases, therefore, even the most gifted young teachers are ill-prepared for the work awaiting them since, in the absence of any reform, the mere "digestion" of the increased school population by the education system implies a highly-developed capacity for innovation and research on the part of the teaching personnel.

It would seem, in fact, that this should have been the starting point for the reform. As future teachers constitute the majority of enrolments in the Faculties of Humanities and Science, it seems important that they should be taken into consideration when reforms in higher education are introduced. It is, in fact, they who will keep the system going and make it possible to cope with the number of enrolments provided for under the Plan. Moreover, if one of the purposes of the Plan is to introduce a reform, this will be an illusion if teaching personnel are not regarded as an essential instrument by which to obtain results. If we work backwards through the points made in this paragraph, starting with the idea of training tailored to a new utilisation of teachers (flexible enough to ensure greater efficiency at establishment level and more accurate estimates of recruitment needs during the preparation of the Plan), we shall then be able to identify one of the weak points of the educational planning process.

Obviously such an effort would imply compulsory retraining for all teachers who are at the same time numerous, young and poorly qualified.

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1) Cf. Report "Study on Teachers: France-Ireland", French report, Chapter III *op. cit.*

Chapter II

TEACHER TRAINING

To be able to train teachers it is first necessary to establish a clear definition of their functions according to the type and level of the teaching they do. This problem was considered in the previous chapter. Teachers must then be recruited and trained in the light of their future functions and not in consideration of their previous school and university background without specific occupational end.

The actual content of the legislation on the guidelines for higher education suggests a new departure in the training of teachers. Article 1 of the Act states that the universities "shall train teachers for the state educational service, ensure uniformity in training (without prejudice to the adaptation of the various categories of teachers to their respective tasks) and provide for a constant improvement in teaching techniques and the renovation of syllabuses and methods". This very general principle, which is, incidentally, open to sometimes conflicting interpretations, was approved by the various commissions concerned with the renovation of teaching as from September 1968.

The main purpose of the reform in teacher training is to make teachers, irrespective of their different functions, into a single body operating throughout the three major educational stages, i.e.

- the period of compulsory schooling;
- non-compulsory secondary schooling;
- higher education.

Although the measures adopted since 1968 make it possible to say that progress is being made along these lines, the unification of the teaching body is by no means an established fact, owing to the deep imprint left by the diversity and stratification of the former system.

I. THE PERIOD OF COMPULSORY SCHOOLING

Contrary to all logic, teachers serving in this spere have widely different backgrounds and include the staff at primary schools, CEG's and lycées. The background of these three categories differs considerably both academically and vocationally.

Action has recently been taken to reduce these disparities but the ideal of a single body of teachers is far from achieved.

This section will be limited to two categories: primary school teachers and teachers in Collèges d'enseignement général.

A. Primary School Teachers

About 50 per cent of teachers were given no training at all and the content of the training provided for the rest had become obsolete. It was obsolete because it

Mainly at places where these counsellors are not immediately available, a multidisciplinary refresher course of one week will be organised for teachers who have been appointed to posts of the same level or who have attended a 3-day specialisation course. Despite its general and collective nature, the anticipated effects of this refresher course will perhaps not be immediately felt. Only the future will make it possible to judge whether these measures are adequate to turn the reform of primary education into a success.

3) Reforms in the functioning of teacher training colleges

This series of measures raises the problem of the functioning of teacher training colleges. A working party has been set up to reconcile these new requirements with the work of the group organisers whose role and functions are undergoing a far-reaching change. Furthermore, the longer period of training for teachers (after the baccalauréat) no longer seems compatible with the presence at the training college of future primary school teachers working for their baccalauréat (most of them are in fact recruited after the first cycle of secondary education). To enable the teacher training colleges to devote all their resources to training (after the baccalauréat), the Ministry of Education is planning to place pupils who continue to be pre-recruited by competition after the first cycle of secondary school in lycées before they are definitely awarded a place in the teacher training colleges. This will make room for the training of replacements for serving teachers and increase the recruitment of prospective teachers who already hold the baccalauréat. This measure is still unlikely to solve the more general problem of maintaining pre-recruitment at an age (15-16) when the motivation of pupils who wish to go into the teaching profession is not always definite. It should be remembered that this initial career decision is largely fostered by the prospects it offers of free training.

B. Teachers at Collèges d'Enseignement Général

The training of teachers for the CEG has been raised from one to two years of higher education supplemented by one year's training. As in the case of the primary school teachers, this 3-year training involves an undertaking to serve for 10 years.

The first year is equivalent to the initial year in the first cycle of specialised higher education. In the second year, student teachers receive a general bivalent training equivalent to the first cycle of higher education. Having taken their degree in humanities or science they work through the first year of the Certificat d'Aptitude Professionnelle (CAP). In their third year they become probationary teachers and receive a training in the theory and practice of education which culminates in the examination for the second part of the CAP. The rules and regulations for CEG teachers were issued in May 1969. These teachers form a corps académique (1) and are required to do 21 hours' teaching per week (with 2 hours' overtime according to the requirements of the service).

The training of lycée-type teachers for the first cycle of secondary schools is considered below together with that of teachers in the second cycle.

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1) An Académie is an educational region. Primary school teachers are responsible to the departmental authorities (an Académie covers several départements).

did not take account of the raising of the school-leaving age or the innovations which had been made in primary education. It was inexistent for many teachers owing to the parallel recruiting system introduced to meet the shortage during the period 1955 to 1962. In recent years too many primary school teachers have been recruited without any training and this situation continues even now.

The following reforms have been introduced:

1) Vocational training

The teacher training course has been increased from one to two years after the baccalauréat. Its content is more adapted to present requirements. The first year is devoted to a more intensive course of general education together with observation periods (two weeks) in primary schools. This refresher course in general education is mainly devoted to mathematics and French. Part of the training in these two disciplines is organised at universities, i.e. two hours per week in each discipline. This is a measure which is likely to promote the integration of all teacher training. In their second year the student teachers spend a period of three months in charge of a primary school class after which they receive a training in educational psychology at the teacher training college (Ecole normale) based on their own teaching experience. Arrangements also exist for a period of training abroad.

2) Retraining and educational seminars

While students in their second year at the teacher training college do their practical period, teachers already serving in primary schools attend a retraining course at the training college. Despite initial difficulties an effort of this kind is indispensable if the "tiers temps pédagogique" is to be introduced ("the organised day"). There is in fact a danger that the reform may not be given its full effect because many primary school teachers have received no training. Moreover, the necessary participation of serving teachers in the work of the training college staff will be facilitated by the arrangement under which their classes are taken over for three hours (maximum) by trainees.

The organisation of teaching seminars is as follows: the reduction of three hours in the teachers' working week enables them to devote more time to permanent training. Educational seminars are more likely by their collective effect to stimulate teachers' minds than formal lectures. Groups of about twenty teachers from the same school or a number of neighbouring schools are placed under the guidance of a group leader. The teachers are of the same level or drawn from the same discipline or may perhaps be grouped by affinities. The groups may be organised by persons who are already qualified by their very functions (departmental inspectors, educational guidance officials, heads of training colleges or their staff, or headmasters of primary schools) or they may be primary school teachers of the new type who, like the persons listed above, have attended a three-month course at the training college and are thus able to stimulate their colleagues. The authorities calculate that they will have trained 20,000 group leaders by 1970-71, i.e. one for every 10 primary teachers. The trained staff then available will be large enough to effect a far-reaching change in the content of education. To enable physical education to assume its rightful place in the organised day a number of measures will be introduced for the benefit of the all-round teachers in charge of this discipline. They receive guidance from itinerant educational counsellors sent out by the departmental and other local authorities, the ultimate target being one counsellor per 100 teachers.

II. NON-COMPULSORY SECONDARY EDUCATION COURSES

A. The Second Long Cycle and Lycée Teachers (including teachers in the first cycle)

The reform at present being studied by the Ministry of Education provides for the creation of teacher training institutes. These institutes would pre-recruit prospective teachers at the end of the first cycle of higher education. This means that the latter would receive a pre-salary and would continue, as at present, to undertake in return to spend a given number of years in the teaching profession.

Recruitment at the end of the first cycle of higher education would, in the subsequent years of study (3 years, making in all a 5-year period) enable the academic and teacher training of future teachers to be organised in a kind of symbiosis, which is not the case today. Future teachers entering these institutes would therefore continue their university studies in the education and research units at the new universities. At the end of this period of training a certificate of capacity for secondary school teaching would be issued. This certificate would not be awarded, as at present, on the result of a competitive examination taken after the university degree but would be reserved for students of the Institute. It would therefore lose its selective character and would confirm that its holder had received a genuine professional training.

Nevertheless, a corps of senior teachers reserved for the top classes of lycées would be maintained. Teachers would be recruited for this in two ways: either by internal promotion of the most deserving of the new certificated teachers or after an additional training period of one year at the level of the third university cycle, admission to which would be by national competition. The best students at the teacher training colleges could naturally sit this competitive examination. This qualification, which would be acquired at the level of the third university cycle, would naturally have to be closely co-ordinated with the recruitment and training of university teachers.

At the present stage of the project work, an investigation still remains to be made into the exact nature of the institutes in question and particularly their relations with the university, the nature of the competitive examinations and the procedure for them, the contents of the professional training provided, the links between this training course and those of other bodies of secondary school teachers, etc.

Apart from the better opportunities it offers for further training, pre-recruitment would facilitate the career decisions of students and prevent them from entering in larger numbers at some later date for the national competitive teacher-recruiting examinations where, in view of actual needs, not more than one-fifth of them would be offered jobs.

Until these projects yield results (the teachers trained along these new lines would not be available before 1975), several immediate steps have been taken to provide professional training for teachers holding the agrégation who have not previously received any initiation into teaching. This training is similar to that offered to certificated teachers.

Teachers who passed their agrégation in 1969 have already received their initiation into teaching at lycées. Responsibility for this training used to be assigned to the headmasters of the lycées to which the agrégé was appointed as a substitute for the practical teaching of 4 weeks which had been unanimously criticized and finally discontinued (Order of 2nd December, 1968).

The idea was that a young teacher should have the opportunity of attending his colleagues' classes and of being present at staff meetings to review the work of individual pupils in a class, including the meetings at which a decision is made on their further studies at the end of the final year of the first cycle. He was also expected to be able to attend the week-day lectures organised by the regional educational centre and take part in the work of the research institutes on the teaching of mathematics. His colleagues were free to form a team to advise him or, when this was impossible, two educational counsellors were appointed by the general inspectorate.

For the young agregé in 1970 opportunities of training are much greater. An agregé who is appointed to a class in the second cycle(1) will not teach more than three to five hours (instead of 15 hours) in his first year. Like the certificated teachers he will attend three practical training periods organised by the regional educational centres in several schools (including, if possible, a school in the first cycle and a technical lycée). Furthermore, his headmaster will ensure, as under the regulations proposed for the training of the 1969 agregés, that he participates with his colleagues in the activities of the school (teaching, various staff meetings, out-of-school activities).

Although they are provisional, these measures represent a definite improvement on previous thinking which held that the academic course was the only form of training and that teaching could be learned on the job. To ensure a fuller integration of the training of all types of teachers, the art and music teachers who used not to have any university training and therefore did not enjoy the status of the other teachers are now trained in the new universities along lines similar to those adopted for other teachers.

Finally, as regards both the initial and continuous training of secondary school teachers of disciplines like mathematics, an important part will be played by the Instituts de Recherche sur l'Enseignements Mathématique (REM) which have just been set up in a number of universities. Similar institutes might be created in the coming year for other disciplines, e.g. linguistics and foreign languages.

B. The Training of Teachers in Collèges d'Enseignement Technique

This training is generally provided for a year in the Ecoles normales nationales d'apprentissage (the National Apprenticeship Training Schools) for teachers of general and technical subjects. It is to be revised in the light of the new features of the second short cycle.

New provisions are still under study. They will probably require future teachers of general subjects to be recruited for a one-year training period after the first cycle of higher education (at the moment this recruitment takes place at the end of the first year in this two-year cycle). Assistant technical teachers would also be recruited to receive a teacher training at the end of the first cycle of higher education, as candidates should be graduates of a University Institute of Technology or holders of a Brevet de technicien supérieur. They are at present recruited if they have five years' professional experience without a specific degree or three years of professional experience with the Brevet or the Baccalauréat de technicien.

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1) Or possibly in higher education where he will do an hour and a half's teaching per week

III. HIGHER EDUCATION

Present projects are understood to include a reduction in the number of categories of university teachers to two only. The new regulations would establish a hierarchy ranging from junior assistant to professor. On the one hand, there would be the professors, senior lecturers and lecturers and, on the other hand, the assistant lecturers and junior assistants. It is at present contemplated that these teachers should receive teacher training.

IV. HEADMASTERS

Until recently the training of headmasters was inadequate and even non-existent. It was sufficient to be on a list of suitable candidates based on criteria such as age, seniority in the profession, and academic level (variable according to the appointment sought). In view of the growing responsibilities of head teachers, a number of training courses began to be organised in 1969-70 for candidates for administrative functions in the public education system. The latter were subjected to tests to verify their suitability. Headmasters of secondary schools also were eligible in the course of 1969-70 to attend training courses organised in some of the academic regions by the National Institute for School Administration.

In future, with effect from the school year 1970-71, no candidates will be placed on the list for headships until they have attended meetings (between 24th September and 1st October) in which they are briefed on the qualifications required, their obligations and the conditions under which they will have to carry out their duties. Candidates will then be asked to set down their views with regard to teaching methods, education and administration in respect of their experience in two schools (including the one in which they teach) and their reports will be added to their files. They will then have an interview with the inspector of their academic region.

Candidates considered suitable will then attend a briefing course (in February) dealing with the organisation of teaching in schools, systems of education and educational guidance, the technique of conducting meetings and leading discussion groups, information about their administrative duties, etc.

Visits will be organised to specific establishments. Finally, at the approach of spring, future headmasters will be given a period of practical experience in the school in which they are likely to be offered a headship.

From the wide range of methods for promoting innovation in education it would finally seem that the French authorities have given priority to the initial and permanent training of teachers. But the actual procedure for the forthcoming innovation is not yet known. In view of the lead foreign universities have over French universities in this field,it is likely to be a long-term task. The integration of the training and the professional status of the various types of teachers, at secondary level alone, may be handicapped not only by the lack of material facilities but also by the attitude of a teaching body which is strongly marked by its stratification and sense of hierarchy.

CONCLUSION

Improvement of the planning and administrative machinery(1)

I. Preparation of the Sixth Plan and planning of the education function

The priority given to investment in buildings in earlier planning was justified if one remembers the limited means of investigation available at that time to the planners who had the further difficulty of working to a very tight time schedule.

In view of the results a new forecasting method was clearly necessary. Not that investment problems have receded at all, but because they need to be seen in a different light with qualitative and teaching considerations in the forefront.

Consideration of these questions by the commissions responsible for studying the problems of educational reform, guidance and teacher training continued throughout the 1968-69 school year. The work of these commissions has helped to assess the effort that will be required to improve the quality and effectiveness of the education system.

Their conclusions are the basis for planning which, from now on, will include in its forecasting all the factors required to work together towards the harmonious development and democratisation of education.

Such a project is certainly ambitious and if it is to come to fruition it will require the active collaboration of all those responsible both in the central administration and in the academic regions.

The deeply felt need for participation has justified the creation of internal planning groups within the Ministry (PIM) and educational planning groups in the regions (PER) whilst deliberation, free of all immediate preoccupations, has been started in a forward study group with instructions to sketch a broad "fresco" of education.

Aside from immediate needs for the preparation of the Sixth Plan, and in line with the movement initiated with the PIM, PER and "fresco" groups, it was essential that the Ministry of Education provide itself with permanent study and forecasting structures and with efficient management.

A. Medium-term planning: role of the PIM and PER groups

The Ministry's 20 internal planning groups, set up in March 1969, have the task of providing the Minister with a first assessment of needs and a description of the means required to put into effect the teaching options which form the basis of educational policy.

Instigated mainly by the School and University Equipment Commission of the Commissariat for the Plan, the procedure by which previous plans were produced, whilst indeed involving the collaboration of the Ministry's main departments, lacked sufficient prior co-ordination to ensure coherence in the forecasts or unity in national education doctrine.

The PIM groups and their regional extensions (PER groups) formed the deliberative structure whose purpose was to lay the foundations for this vital co-ordination of objectives and means before the work of the Plan Commission (now called Education Commission in view of its wider responsibilities) was begun in autumn 1969.

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1) This text has been drawn up with the help of substantial extracts from Information Notes circulated by the Ministry of Education.

These 20 PIM groups are so designed that all problems can be covered without neglecting the need for continuous co-ordination.

Their range of investigation is total. There are "vertical" groups concerned with the various cycles of education and "horizontal" groups dealing with resources (e.g. teachers, cost of education, etc.).

Their co-ordination will be ensured in three ways:

a) The Minister's Private Office will ensure that there is overall co-ordination between the groups. For this purpose it will convene the group chairmen and rapporteurs to report progress in a framework of reciprocal information.

b) Each Ministerial Department or Directorate will appoint one of its staff as PIM group liaison officer, to be the regular channel of communication for the various groups concerned. Additionally, each Directorate will have a representative in most groups.

c) Lastly, the Department for the Plan will be represented in all groups for which, moreover, it will provide the general secretariat.

The problems peculiar to each level of education will be examined by education groups whilst teaching questions of common interest or those relative to logistics will be dealt with in sector groups.

The work of the education and sector groups culminated at the beginning of summer 1969 in the submission of a consolidated report on the basis of which a first outline of educational policy ways and means during the Sixth Plan could be drawn up.

This work of participation cannot be limited to the central administration; those responsible at local and regional level who will have to put the policy into practice and translate it in terms of day-to-day action have to be involved in the preparation of the Plan.

The creation of the PER groups is designed to meet this objective. They will consist of the rectors and their main collaborators, in particular the regional and academic inspectors. Co-ordination between the various groups will be affected by the chief inspectors of the school system.

The task of these groups is to provide explanatory data regarding the disparities in development observed in the various regions and départements as regards school enrolments. Their first assignment therefore is to submit an overall picture highlighting the critical points that emerged during the application of the Fifth Plan.

This study is conducted from an essentially teaching viewpoint. It will steer clear of any duplication with the regional studies on demography and employment; on the contrary, the work done by the PER groups will complement and enrich these in a spirit of mutual co-operation.

The dialogue thus begun between central administration and academic echelons will, of course, be continued throughout the preparation of the Plan. Thereafter, the PIM groups are scheduled to meet, perhaps in reduced form. At that time the rectors' reports will give the regional viewpoints on matters of concern to the Ministry's internal planners.

This second phase of the PIM and PER groups' activities was at that time related to those of the Plan's Education Commission set up in the autumn of 1969.

The preparation of working assumptions and the making up of dossiers will also concern the future National Council for Higher Education and Research which the Guidelines Act on Higher Education states is to "prepare higher education and research planning in liaison with the bodies responsible for the periodical national plans, taking the latter into account and with longer term prospects in mind".

From that date, the preparation of the [illegible] followed the usual course culminating in:

- a parliamentary debate on the main options in the spring of 1970;
- passing of the Act adopting the proposals in the 1970 spring session.

B. Permanent structure for studies, forecasting and programming Forward planning: task of the education "fresco" group

Any attempt to define what education, its methods, resources, cost and range will be in the more distant future implies a degree of detachment from immediate preoccupations and a great measure of freedom of thought.

This is the objective given to the education "fresco" group set up at the start of 1969. This group, designed as a "think tank", presented early that year its first report which expressed in very free terms the main lines of research to be followed in future educational studies.

On the basis of these main themes, work on the "fresco" proceeded in six specialised groups: teaching aspects, economic aspects, social aspects, international aspects, vocational aspects, educational facilities.

These groups presented their conclusions during the summer of 1969.

The "fresco" studies have so far been conducted on the joint initiative of the Ministry of Education and the Plan Commissariat and the activities of the group will continue alongside the work of the National Education Commission contributing to the latter the necessary forward viewpoint.

This highly original method of tackling planning problems will enable a very clear and complete view to be taken of the evolution of the education system.

It would be all the more regrettable, therefore, if the will to act and the skills mobilised for the purposes of the Plan were allowed to disperse.

Moreover, the preparatory work undertaken since the beginning of 1969 has revealed some shortcomings in regard to information.

Though the national education system has had a satisfactory statistical apparatus for a number of years, it appears to be a little short of information on the nature and the application of the resources mobilised for educational needs.

To make good this shortcoming a major effort has been made recently aiming at the establishment of a permanent index of buildings and land, vitally necessary for effective capital investment programming and for determining coherent policies for the maintenance and operation of educational establishments.

It will thus be possible in future to produce a synthesis of the very full information in the Minister's possession on a continuing basis in the shape of a model similar to those used in other countries.

The formation of a Commission des synthèses économiques de l'éducation nationale (Commission on economic syntheses for national education) has recently been decided in order to provide the Ministry of Education with an instrument indispensable for the formulation of coherent policy.

One of this Commission's priorities will be to arrive at an estimate of the costs of the education system, including in its quantifying work the negative costs due to the maladjustment and shortcomings of the training system.

The purpose of this study is to evaluate education's burden on the economy as a whole and to bring out the relationships between economic growth and rising education costs.

Whilst utilising the results of the studies on rationalising budgetary options (RCB), the Commission will not duplicate these studies but have the broader task of conferring overall coherence on the data relating to the whole of the education system and to its evolution.

II. Reform of the central administration: Forecasting and programming

The most important decisions have naturally concerned the central administration itself which is responsible for a highly centralised education system.

Under the reorganisation of the central administration which was decided in March 1970, a forecasting directorate was set up to determine objectives sufficiently early to ensure that the resources required are made available in time. This directorate is made up of a number of services which were previously under-staffed and inadequately co-ordinated and it is likely that other units will be created. It works in close contact with the rest of the central administration and at present comprises:

- a department responsible for university and school maps and equipment planning;
- a central department for statistics and sample surveys;
- a department for programming and economic research.

This last department is expected to expand considerably inasmuch as it will be responsible for:

- drawing up a list of prospective operations with financial implications and keeping it up to date;
- preparing an inventory of the facilities required for each operation (equipment, administration, personnel);
- determining the dates and timetable for decisions which are essential to the implementation of each operation;
- keeping the implementation of these decisions under review and warning the responsible services in case of any divergence from forecasts;
- analysing the administrative systems;
- studying methods of rationalising budget decisions.

Decisions have already been made to improve the programming of certain schools. As an example, it was decided for the first time that the building of collèges d'enseignement secondaire should be programmed on a multi-annual basis. The strict limits of annual budgeting will be discarded and the appropriations for relevant operations in 1971 will be set at seventy per cent of the 1970 figure, the same procedure being adopted for 1972 and 1973, with appropriations of 60 and 50 per cent respectively. The actual number of buildings to be constructed each year will be finally fixed in the light of the available appropriations. A list of priorities will be drawn up for the years concerned. The local authorities, knowing that the scheduled premises are certain to be built, will be able to buy the necessary land immediately instead of hesitating to make an expensive outlay because the government is unable to state the date at which the schools are to be built.

With the collaboration of a team of consultant engineers, a thorough critical survey of the various operations involved in the commissioning of a new school was also undertaken, likewise for the first time. As this survey revealed the complexity of the present administrative system, a permanent co-ordinating group is to make proposals for simplifying current procedures in order to cut down the duration of the administrative phase of the building operations.

Deconcentration of administration

Measures of the above type might also be adopted for new building in the higher education sector, particularly the new university institutes of technology. The innovations announced at central administration level will not bear fruit unless the rectorates of each academic region which are scheduled to benefit increasingly from measures of administrative deconcentration operate efficiently at the same time. Pilot rectorates are now making considerable experimental use of data processing to integrate the administration of their many tasks. This integrated administration concerns:

- the administration of the school map;
- the forecast, verification and review of enrolments at the beginning of the school year;
- the optimum organisation of timetables;
- assistance in educational guidance and the allocation of pupils;
- medical examination;
- inspection and upkeep of buildings;
- statistics required for the national administration of education;
- administration of examinations;
- administration of scholarships and collection of fees;
- verification of the financial administration of schools;
- administration of deconcentrated staff.

These tasks will be facilitated by the current computerisation not only of pupils' records but of information on the whole of the resources of the education system. These rectorates are also to deconcentrate their own administration by assigning responsibility to the academy inspectors who themselves will be able to delegate their powers to headmasters in a number of sectors. It will be noted that these projects and the initial decisions are in line with the policy of taking the fullest possible account of the decision of the users themselves and associating the latter in these decisions under the new system of participation and autonomy in which the French education system is expected to develop.

III. Towards a new administration of educational research and development

Alongside this forward-looking economic analysis of national education problems, research needs to be developed in the field of education.

At the moment the share of the national education budget devoted to such research is relatively small. What is more, the work started in this field is often little known, unco-ordinated and insufficiently utilised. The increase in resources it is essential to allocate to this research can only be contemplated in the framework of an administrative structure ensuring that it is fully effective.

To achieve this purpose, a Comité de la recherche et du développement dans le domaine de l'éducation (Committee for research and development in the field of education) has been instituted with a permanent office to prepare its work and ensure wide dissemination of its results.

The Comité de la Recherche et du Développement de l'education nationale (Education Research and Development Committee) set up in 1966 thus changes its name to that of Comité de la Recherche et du Développement dans le domaine de l'éducation. This committee will be made up of permanent members (directors, Ministry of Education departmental heads, chairmen of commissions on economic synthesis for education, persons responsible for the university of the air and for studies on the application of new educational techniques) and members appointed by the Minister (consisting of representatives of research bodies in the education field and persons chosen for their particular qualifications).

Each year the Committee will put forward a programme of studies and research on educational subjects to the Minister together with details of the resources necessary for the programme to be implemented. For this purpose the Committee will study problems common to the various commissions, bodies and administrative departments responsible for research in the field of education. It will co-ordinate development work and establish links between research and experimentation, on the one hand, and initial and continuing teacher training, on the other.

The annual programme laid down by the Minister will determine:

- the personnel strength and equipment and operating funds for research bodies, units and institutions;
- the studies and research on a contract basis to be financed out of budget appropriations.

The secretariat of the Committee will be provided by the Office for Research and Development in the field of Education, the new name for the Bureau des Programmes de Recherches (Office for Research Programmes) of the Ministry of Education (see Introduction Book III: educational research in France).

This Office will therefore prepare the work of the Committee for Research and Development in the field of Education. Its responsibilities in this connection will be:

a) to prepare the study and research programme on educational subjects;
b) to follow up the execution of this programme;
c) to co-ordinate utilisation and dissemination of the results of such research;
d) to present an annual report to the Committee for Research and Development on the progress of research work.

The Office for Research and Development in the field of Education will comprise a programme section, an experimentation section and a technological section.

- The programme section will prepare the research programmes and monitor the performance of research contracts approved by the Committee for Research and Development in the field of Education;
- the section for experimentation at school and university levels will prepare the joint action by the competent directorates, departments and bodies in this field, it will ensure that results are disseminated and put to use;
- the educational technology section will study the industrial and technological aspects of educational research and experimentation; it will work out forecasts in this area and put forward proposals for allocation of facilities.

The reorganisation of the administration of the Ministry of Education in March 1970 took account of the importance of educational research by assigning the responsibilities of this Office to a single official whose task is to keep all teaching research under review and stimulate certain research assignments in particular. This improvement in the planning and administration of educational research and development will be supplemented by the anticipated reform of the Institut pédagogique national.

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Although the groundwork for a more effective forecasting of future trends and their social and economic incidences had been laid, the extent of the task and the difficulties which will have to be tackled must not be underestimated.

Final Comments

In lieu of general conclusions on this report which it will be the task of the examiners of French educational policy to formulate, a few final remarks might be made.

The proof of the inefficiency of the education system which emerged from a quantitative analysis, limited though it was by the paucity of the available data, has thrown light on procedures in the system which needed change.

In the last ten or so years a number of often bold reforms have been put into effect, but their impact has not always been as powerful as was hoped because it was difficult to formulate a clear definition of the aims of education and consequently the precise targets to be assigned to one or other level and type of education.

Moreover, the implementation of certain projects was retarded or did not yield the results anticipated because the personnel and the material resources necessary for their success had not been systematically estimated and mobilised. In this case the actual mechanism of planning was at fault.

Throughout the whole of this study, every effort has nevertheless been made to provide information on the most recent decisions designed to bring about far-reaching changes.

It is difficult at the present stage in the application of educational reform to volunteer any opinion on the initial results or on any difficulties encountered. The transformation implies a profound change in mentality on the part of all those concerned at all levels.

The needs of the hour have recently forced the French authorities to make fundamental changes in the operation of higher education, but the very success of this level of education will depend on the products of secondary education, itself dependent on what is really done in pre-primary and primary schools. The "reaction time" in an education system being naturally lengthy, even if all levels are tackled at once, it is likely in the short or medium term that part of the activities of a given cycle will be devoted to compensating the greater or lesser shortcomings of the cycle immediately preceding it.

It will therefore be important in the coming years, by systematic surveys, to detect any braking effects applied to the reform. The authorities concerned will then be able to see what immediate strategic action can be taken to correct them.

A reform of these proportions calls for constant re-examination of its own coherence and an increase in the quantity and quality of the human and material resources placed at its disposal.

It is certain that all Member countries of the OECD will follow this experiment with interest and study how the general objectives of the reform are attained.

Annex I

SHARING OF THE BURDENS OF FINANCING BETWEEN THE STATE AND LOCAL AUTHORITIES

The Ministry of Education does not bear the whole cost of Education. The budgets of most of the other ministries carry, in varying degrees, a share of the education function. In addition, private individuals are free to carry out part of this function: in most cases such "voluntary" schools are denominational.

Sharing the financial burden goes even further: if we consider only the Ministry of Education, which undertakes responsibility for the bulk of education, we shall find that the various establishments under its control enjoy in relation to it varying degrees of financial independence which can be quite considerable. Such independence has varied over time according to levels or types of education. Thus, under the Act of 1833, which provided for the creation of a primary school in every commune, the creation, upkeep, running, housing of teachers and in fact all expenditure connected with such a school - with the exception of teachers' salaries - were chargeable to the commune. But during the last ten years there has been a clearly discernible move towards transferring the costs of education from the bodies bearing them to the state. According to the initial principles, the costs of primary schools and of collèges and lycées providing secondary education were to be borne by the communes, while the state was to be responsible for financing higher education establishments and a few lycées which were to produce the country's future leaders.

The size of the task faced by the state, which would increase still further if the present tendency towards transfers were to continue, has led the Ministry of Education to define a long-term policy on sharing of such expenditure between the state and local authorities(1), according to levels of education. The suggested objectives are as follows in regard to current expenditure:

- for primary schools and nursery schools: actual running costs of nursery and primary schools must be borne by local authorities;
- as regards secondary education: for the first cycle, running costs to be shared between the state and territorial or local authorities;
- at second cycle level, the whole of the running costs would be taken over by the state.

The size of the contribution made by local authorities varies considerably as between areas and could only be defined accurately by means of an analysis of local authority budgets, carried out after they have been brought together within the Ministry of the Interior.

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1) Local authorities or territorial authorities, i.e. communes, associations of communes, joint associations, districts, départements (cf. reports to the National Assembly).

The following figures give some idea of the extent of the shift from local authorities to the state.

In 1966 the following establishments were in operation:

1,139 lycées, of which:

- 462 state lycées
- 339 nationalised lycées (or in course of nationalisation)
- 338 municipal (or départemental) lycées

3,844 municipal CEG's, 226 of which were in the course of being nationalised

395 CES's, of which:

- 196 nationalised CES's
- 100 municipal CES's in the course of being nationalised
- 99 CES's set up within the administrative and financial framework of the municipal, nationalised or state lycées.

Between 1963 and 1968 the total shift in financial burden from local authorities to the state amounted to N.Frs.209,120 million, as shown by the following table.

At the present time a distinction should be made between participation by local authorities:

- to personnel costs
- to operating and equipment costs
- to building and installation costs for the various types of establishments.

A. Nursery and primary schools

- Personnel costs

The state is responsible for payment of remuneration; however, it is for the local authorities to pay the municipal allowances for supervision of refectories and evening studies, and wages of subordinate staff.

- Operating and equipment costs

The commune is responsible for current operating costs, the cost of purchase and replacement of furniture and teaching equipment (which it can partly finance out of appropriations towards the education grant assigned to it by the state), and housing for teachers, school transport (towards which the state also pays subsidies) and in many cases for the supply of school books. To these should be added upkeep, rent where appropriate, repairs (including major repairs) to school buildings, their appurtenances and the living accommodation annexed thereto and the upkeep of school furniture and teaching equipment.

- Building and installation costs

The local authority is responsible for the acquisition or adaptation of the site, and for building, adaptation, purchase or renting of the school premises and their appurtenances and of living quarters for the teachers.

TABLE A

Expenditure previously borne by local authorities now met by the state

(N.Frs. '000)

Type of liability	1963	1964	1965	1966	1967	1968	Total 1963-1968
Running costs of academic region inspectorates	2,000	-	-	-	-	-	2,000
Rent paid for housing inspectorate personnel and offices of academic region and department services	2,000	-	-	-	-	-	2,000
Assumption of liability for supplementary remuneration to women inspectors of nursery schools	75	-	-	-	-	-	75
Assumption of liability for local authorities' contribution to the cost of school health services	18,154	-	-	-	-	-	18,154
Nationalisation and State takeover of municipal lycées, placing under state management of boarding lycées and nationalisation of Colleges of General Education and Colleges of Secondary Education	4,832	22,105	40,655	17,755	18,555	26,948	130,850
State contribution to running expenses of the second cycle in municipal lycées	-	12,000	-	-	-	-	12,000
Assumption of liability for running expenses and equipment costs of vocational guidance centres	-	-	-	-	3,541	-	3,541
Assumption of liability for 2,100 posts in the former Département of the Seine (special posts)	-	-	-	-	-	40,500	40,500
TOTAL	27,061	34,105	40,655	17,755	22,096	67,448	209,120

Source: Report to the National Assembly

However, the state grants for the building of every nursery or primary school a flat rate subsidy which takes into account the land required as a site for the premises, the cost of building the classrooms and their requisite appurtenances, and of initial equipment. The subsidy is based on the number of classrooms to be built and the number of meals to be served in the establishment. Its exact amount varies according to the area in which the school is situated (France is divided into four areas) and the value of the centime (notional basis of assessment to rates) in the commune, so that when the income of the commune exceeds a certain ceiling the state reduces its subsidy.

In the final result it is for the commune in which the new classes are to be built to bear the difference between the flat rate subsidy from the state and the total amount of expenditure involved in the building operation.

TABLE B

State subsidy for primary school building
under the Decree of 31st December, 1963

(In francs)

	AREAS			
	P	A	B	C
I. Complete buildings (per classroom)				
Nursery school				
- less than 4 classes	103,000	97,900	94,800	91,600
- 4 classes and over	95,000	90,300	87,400	84,600
Primary school				
- less than 17 classes	81,000	77,000	74,500	72,100
- 17 classes and over	77,000	73,200	70,800	68,500
II. Additions to old buildings (per classroom)	40,000	38,000	36,800	35,600
III. Refectories (per day boarder)				
- up to 250 boarders	450	430	414	400
- above 250 boarders	200	190	184	178

Source: Official Gazette of the Ministry of Education, 1964.

B. State secondary establishments (State lycées; nationalised lycées, CES's or CEG's; CES's set up within the administrative and financial framework of nationalised or state lycées; CET's).

Personnel costs

Local authorities have no costs to meet in this connection, all salaries being paid by the state.

Operating and equipment costs

- As regards state establishments, the communes bear no part of this expenditure;

- As regards nationalised establishments, the communes contribute to operating expenses according to the percentage laid down in the nationalisation agreement, which is generally 30 to 35 per cent. This relates to the following expenses: school, office, laboratory, library supplies; heating, lighting, furniture, sundry current expenses, running cost of workshops, maintenance of buildings and furniture and of staff housing; insurance and other contributions connected with the buildings.

Contributions by local authorities per pupil in 1967 averaged:

- Frs. 24.90 for CES's
- Frs. 32.55 for classical and modern lycées
- Frs. 78.40 for technical lycées

Purchases of equipment, whether replacements or additions, are wholly paid for by the state into whose ownership the equipment has passed as a result of nationalisation.

Building and installation costs

For all new building for secondary education the enactments in force provide for joint financing by the state and the commune in which they are to be built, on the following terms:

(a) The commune provides the building site, but if this has had to be purchased the financial burden involved is lessened by a state subsidy. This subsidy is granted only for so much of the surface as is recognised as necessary for the educational establishment: it amounts to 50 per cent of the average value of the land, i.e. 50 per cent of:

- the actual purchase price if the land were acquired within five years;
- the market value as estimated by the Service des Domaines (government land department) if it were acquired more than five years ago.

The state subsidy is not granted until the commune has paid for the land, which means that the commune has to obtain a loan; but it is almost impossible to obtain such a loan to cover the portion which the State will subsequently pay.

(b) The proportion of the cost of building to be borne by the commune is obtained by means of the following formula:

$$T = \frac{100F.}{D} \times \frac{Po}{D} \times \frac{s}{S}$$

in which:

- F is the total amount of local taxation which remains at the disposition of the commune or communes entitled to the subsidy, or a group of communes forming an association or district, or the département entitled to the subsidy.

- D is the present population of the commune or other entity.

- Po is the population of the commune or other entity at the date of the last general census but one.

- e is the number of day pupils it is planned to teach in the establishment.

- E is the total number of pupils it is planned to accommodate.

The rate of participation by the town or other entity is thus a function of its relative wealth, its population growth and the proportion of day boarders who will be attending the school. Such rate may not exceed 40 per cent and is on average 15 per cent.

The rate of state participation is equal to the difference between the total cost and the rate of communal participation.

However, the final financial burden falling on the commune is related to the latter's decision as to who shall commission the work and thus direct and take responsibility for it. The commune may either retain this power of control or enter into an agreement conferring it on the State, the rule being as follows:

- whichever of the two bodies - the state or the commune - does not commission the work shall share in the cost at a fixed rate based on the theoretical cost of the establishment, which is obtained by multiplying the total number of pupils to be accommodated by a unit cost per pupil;

- whereas, the body commissioning the work bears the difference between this participation on a fixed basis and the actual cost of the work (including the cost of additional work entailed by the nature of the site).

These rules apply to all new building. In the case of nationalised establishments, it has been decided that the local authority remains the owner of premises existing at the time of nationalisation and the use of which is granted to the Ministry of Education. Consequently, major repairs remain the responsibility of the local authority, which may however receive subsidies from the state.

As regards housing accommodation for staff in headmaster, bursar and invigilator grades, the use of which is transferred to the state as a result of nationalisation, it is provided that if the existing installations should prove insufficient in the future the town shall undertake to provide accommodation for such staff.

C. Municipal Secondary Establishments (CEG's, CES's, classical, modern and technical lycées)

Staff Costs

The state undertakes responsibility for the pay and allowances of teaching staff. Nevertheless, the communes are liable for payment of household and refectory staff and certain specialist instructors engaged to teach so-called "secondary" subjects, the pay of supplementary teachers, and the payment of compensatory allowances for extra teaching and invigilation duties, and the allowances paid to the official responsible for checking the accounts on behalf of the area authority.

Operating and equipment costs

In municipal secondary establishments, current operating costs are borne by the communes which allot for the purpose, an average per pupil of:

- Frs. 85 in the CES and CEG;
- Frs. 95 in classical and modern lycées;
- Frs.224 in technical lycées.

The financial liabilities of the towns in this respect are laid down in an Establishment Agreement entered into for ten years between the state and the local authority concerned.

Communes are also liable for replacement of equipment, upkeep of premises, purchase and upkeep of the necessary furniture and equipment, and they may also be required to contribute to financing school transport and the supply of certain school books.

However, the state pays to them:

(a) operating subsidies for municipal second cycle classes and classes preparing for the Grandes Ecoles, up to a maximum of 40 per cent of the following costs:

- salaries of porters and similar staff in the day school;
- upkeep of the day school premises, including housing accommodation for staff;
- upkeep of furniture;
- fire insurance;
- rental of school buildings;
- heating, lighting, water for the day school and the housing accommodation;
- educational expenditure, i.e. cost of courses and equipment;
- running cost of workshops;
- office expenses, postages and stationery, subscription to the Official Gazette;
- prize giving.

(b) subsidies for the cost of teaching equipment;

(c) subsidies for school transport;

(d) education grants, which may be used, inter alia, for the purchase of pooled teaching equipment;

(e) allocations towards the cost of books for 5e and 6e classes in lycées, CEG's and CES's.

In communes which do not provide school books free, the state meets the needs of these same pupils on the basis of an individual allocation of Frs. 40 per pupil in 5e and 6e.

Local authorities which supplied and continue to supply free books to the pupils in their establishments receive a flat-rate grant calculated for a three-year period (average life of the books) which is intended to provide for replacement of such books and to meet new requirements due to increased enrolments.

Building and installation costs

As from 1st January, 1963, all building for secondary education is subject to the same rules, whatever is to be the status of the establishment. These rules were explained above in connection with state and nationalised establishments.

D. Primary teacher training schools

The local authority concerned in regard to training schools is the département and not the commune.

Staff costs

These consist mainly of the remuneration of the household and similar staff of the training school and its attached school. The state accordingly meets the cost of salaries of established staff, salaries of student-teachers and maintenance grants of student-teachers during training (i.e. during their school years prior to the baccalauréat).

Operating and equipment costs

A distinction is made between compulsory expenditure borne by the département and optional expenditure. The département meets the following costs of the training school: upkeep of buildings, upkeep and replacement of furniture and essential teaching equipment, fire insurance of buildings, housing accommodation for those student-teachers which the training school is unable to house (the département may either rent premises outside the school for housing student-teachers or pay a lodging allowance to those responsible for the student-teachers, to which, where appropriate, may be added an allowance covering daily transport).

The département is also liable for the cost of upkeep and the running costs of the attached schools.

The optional costs are much less in amount: they relate to motor vehicles, school outfits and end-of-studies travel for student-teachers, and teaching equipment for the attached school. But the operating expenses relating strictly to the training school are the responsibility of the state.

Building and installation costs

The département bears the cost of all transactions concerned with buildings: purchase of site, building or acquisition of premises, supply of equipment and, where appropriate, renting of additional premises and their necessary appurtenances for the running of the establishment and the housing of the pupils. However, training schools may receive subsidies from the state.

E. University establishments

Local authorities no longer shoulder any of the compulsory expenses in regard to these, the state being wholly responsible. However, universities are entitled to receive subsidies from local authorities (communes, general council of the département, public undertakings, and the like). Such subsidies are entered under the heading of receipts in the budget of the university.

In contrast to primary and secondary establishments, university establishments are required to have a budget. Each faculty or independent establishment draws up an ordinary budget and an extraordinary budget, in which are set forth all receipts and expenses for the coming year. The budget of each such establishment, voted by its board, is then submitted to the university board. In addition, the university board draws up and approves the university budget. Both budgets must be voted before 30th November each year and be forwarded to the Minister of Education by 15th December.

The budgets are finally settled by the Minister; thereafter no expenditure may be incurred outside the appropriations provided (not only as regards the state subsidy but also for other sources of revenue). An additional budget may be submitted in the month of May.

This procedure applies only to equipment and operating expenditure and to the pay of some of the subordinate staff, since the main staff costs appear in the Ministry of Education budget and not in the budget of the university.

The financing of the university and similar buildings - university libraries and central lending libraries, halls of residence and refectories - is entirely the responsibility of the state.

F. Major establishments coming under the Directorate for Higher Education

When such establishments - such as the Collège de France, the Muséum d'Histoire naturelle, etc. - are financially independent, their staff is paid directly by the state: such independence accordingly covers only expenditure on equipment for which they receive an overall subsidy from the Ministry of Education.

When these establishments are not financially independent - such as the Bureau des Longitudes, the Ecole Pratique des Hautes Etudes, etc. - their operating expenditure is met by the Ministry of Education.

Annex II

THE PROCEDURE FOR DRAWING UP THE BUDGET
OF THE MINISTRY OF EDUCATION

The present budget procedure - which is the same for all ministries - is that laid down in the Ordinance of 2nd January, 1959.

In chronological order, the procedure is as follows: the Ministry of Education, between March and June, prepares a draft budget taking into account the general principles of government action as defined by the Council of Ministers. Forecasts of expenditure are established for each department for the coming year and are then consolidated by the budget department of the Ministry of Education. The draft budget setting out the major aggregates as planned by the Ministry of Education is then sent to the Secretariat of State for the Budget at the Ministry of Finance.

The proposals of the Ministry of Education are critically examined by the Directorate for the Budget which may challenge certain items of expenditure; any points in dispute which have not been settled at departmental level are then discussed between the ministers concerned. The only questions left outstanding are those known as "reserved" questions which are submitted to the Prime Minister for decision.

Once agreement has been obtained on block appropriations the draft budget is returned to the Ministry of Education, which, within the limits of the ceiling of expenditure and utilisation, draws up the detailed budget by chapters.

To do this, each department is provided with guidelines regarding:

- the total number of posts to be created;
- the amount of appropriations for each heading;
- any specific provisions the content of which has been explicitly laid down or rejected during the ministerial discussions.

The whole of the detailed measures, with supporting reasons and precise figures both for ordinary and capital expenditure.is returned for further scrutiny to the Secretariat of State for the Budget and once more submitted to the Prime Minister to settle any questions.

Once again, a check is made:

- that the measures proposed are in accordance with government decisions and in particular with the ceilings for appropriations or posts;
- that the traditional rules governing public expenditure have been complied with, particularly as regards remuneration and sundry benefits, establishment, etc.;
- that certain measures are useful or appropriate, particularly those which involve long-term commitments.

The final version is then transmitted to Parliament.

The budget is first examined in committee. The budget of the Ministry of Education is remitted to the Committee for Cultural, Family and Social Affairs and the Committee for Finance, the Economy and the Plan: in the Senate, it goes before the Committee for Cultural Affairs and the Committee for Finance, Budget Control and National Economic Accounts.

After hearing the Minister, the committees prepare a report advising adoption or rejection of the draft budget.

Next the budget is debated and voted upon by the House. In this connection it should be noted that Parliament does not have the initiative in regard to expenditure, i.e. it cannot make proposals which would either reduce national resources or increase the cost to the public. The Government may however agree, on a proposal by Parliament, to introduce additional items.

Finally, the expenditure in the general budget is put to a single vote in regard to services already previously voted, to a vote by heading and, within a given heading, by ministry in regard to authorisation of new expenditure.

Concepts similar to those of "services voted" and "authorisation of new expenditure" were used in preparing the budget. This distinction is aimed at speeding up preparation of the budget. It applies only to current expenditure.

Forecasting of current expenditure

In drawing up the budget a distinction is made between requests for funds related to enrolments and requests related to improvement of the service.

Requests related to enrolments can be said to be a renewal for the enrolments, which may be higher in the year to which the budget applies, of the conditions which were regarded as acceptable for the enrolments of the previous year. It is as if the previous year the nation had agreed to pay a given sum for each pupil and planned to maintain at least the same quality of service for the pupils in the coming year.

Such requests are calculated in a very simple manner in proportion to enrolments and are not examined in detail.

The position is quite different in regard to requests related to improvement of services, which include, in particular, requests:

- for creation of posts, to improve the pupil-teacher ratio or provide new services;
- for upward adjustment of salaries;
- for increasing the number or the amount of scholarships, etc.

Such requests, which involve policy decisions, are examined with great care.

Forecasting of capital expenditure

Procedure in this regard is closely related to planning.

Since the Second Plan for modernisation and capital equipment, educational investment is part of general French development planning.

However, the Plan is not mandatory and in addition does not lay down yearly datelines: it determines the global amount which is regarded as desirable to allocate for education investment, taking into account general equilibrium and development needs. Thus under the Fourth Plan a sum of Frs. 12,000 million, distributed among the various levels of education, was provided for, and a sum of Frs. 25,500 million is provided for under the Fifth Plan. This pluri-annual procedure has the advantage, for the Ministry, of going beyond the framework of budget forecasting - which is a very short-term form of forecasting, in particular in a field such as that of building which generally takes more than a year - and of enabling it to spread investment programmes over a period of four or five years.

The annual capital investment budget debated each year therefore contains proposals for expenditure in relation to needs but also in relation to building schemes likely to be implemented during the year.

The appropriations contained in the Plan serve as a basis for determining the annual amount of programme authorisations. On the other hand payment approvals represent the amounts entered each year in the budget.

Payment approvals may however concern requests which are outside the scope of the Plan, either because the Plan has under-estimated certain phenomena or because enrolments have evolved in an unforeseen way (as was the case when French people were repatriated from Algeria), or, again, because a reform in the education system makes it necessary to modify or increase the appropriations, etc.

In general, such requests may lead to the Plan's being revised.

It should be noted, in connection with the part played by the Plan, that education policy is worked out by the Ministry and not by the Commissioner for the Plan, whether in regard to general organisation, syllabuses or the very aims of schooling. The Commissariat for the Plan is solely concerned with defining the amount of the resources required by such a policy.

This procedure for drawing up the budget, which is a relatively simplified one compared with that followed previously, has some major disadvantages: in particular, it is difficult to introduce new forms of action into a framework as rigid as that of the budget.

The budget as voted by Parliament constitutes the Ministry's initial appropriation. Imperative reasons of various kinds (unexpected developments in the economic situation, unexpected rises in prices or salaries, etc.) may render such appropriation insufficient. During the year, therefore, the Government may ask Parliament to vote a supplementary or even two supplementary budgets: such budgets are known as "collectifs".

Annex III

THE VARIOUS FORMS OF AID TO PUPILS AND STUDENTS

INTRODUCTION

Aid to pupils and students may take the form of a grant of money or the right to certain services either free of charge or at reduced rates, in addition to actual tuition. Grants of money may take the form of a non-returnable subsidy or a temporary allowance paid for a specific period and refundable after that period. The first type of aid is direct; the second indirect. Direct aid consists more precisely of scholarships, grants, pre-salaries, loans, different types of family allowances, tax reliefs. Indirect aid concerns auxiliary educational facilities, i.e. boarding schools university cities, restaurants, canteens, transport to and from school and certain other social services, like medical supervision. It may be noted that indirect aid to school children and students may be general rather than nominal, e.g. medical supervision. In other cases, such as requests for accommodation in a university city, applicants have to conform to specific requirements.

State aid to school children and students takes different forms at different levels. We therefore propose to consider the situation at each level. Annex III gives a detailed description of current legislation and initial analysis of its results. The analysis deals with the trend in the period 1962-63 to 1968-69 and is a useful supplement to the relevant paragraphs which were inserted into the study on budget trends but could not give a detailed account of developments in the fifties owing to the absence of exhaustive statistics. (Book I, Part One, Chapter III D.)

Chapter I

AID TO SCHOOL CHILDREN IN PRIMARY AND SECONDARY EDUCATION

I. Aid to children in primary education

Direct aid to children in the primary school system is very limited as tuition is totally free. It is only justified in a very few cases when it takes on a specifically social character. On the other hand, the closing down of single-class schools in small villages followed by the establishment of CES's and CEG's has led to the development of a new form of indirect aid, i.e. transport to and from school.

A. Direct Aid

1. Allowances to promote school attendance

The old name for these allowances was "bourses de hameaux" (allowances to children from small villages) but it has now been discarded. This aid is designed to help families to send their children to school during the compulsory period. It is granted where there is no school in a particular locality and parents are obliged to send their children to a neighbouring district either as full boarders or day-boarders. To qualify for these allowances children must attend a public primary school or a private school which has a contract with the government.

Regulations for boarders were fixed by an Order of 23rd February, 1962: aid is not provided except where an existing school has closed down, or where the locality has no state-controlled school or private school with a government contract at the level required by the child concerned, and the state school or private school with contract providing tuition of the requisite level and type is situated in a rural area at a distance of over three kilometres.

The annual scales of allowance are 540 francs, 450 francs, 360 francs and 270 francs according to the means of the family concerned.

In the case of day-boarders: if the locality in which the family lives is on the itinerary of a school bus operating a morning and evening service, the children are required to have their lunch at a canteen or with a local inhabitant. In this case the lunch allowance ("indemnité de panier") is granted to needy children whose parents can provide justification. The inspectors of the regional "Académie" concerned are empowered to take the decision and fix the scale of this allowance which may amount to 150 francs, 125 francs, 100 francs or 75 francs annually, according to the family's means.

2. Allowance for school outfit and upkeep ("bourses de trousseau et d'entretien")

Like the school attendance allowance, the outfit and maintenance allowance is graduated and designed either to assist specific sections of the community or help families which are handicapped for reasons other than lack of means.

For example, most maintenance allowances go to pupils at state training schools for handicapped or backward children. A proportion is allotted to pupils at schools reserved for the children of bargees, members of travelling shows and scattered families who would otherwise not be enrolled in any school or would change schools too frequently. Aid in this form is often granted to primary schools in the overseas territories where the pupils often have more difficulty in attending school than their counterparts in France.

B. Indirect Aid

The decision to provide children with school books free of charge is a matter for the Communes and most of them give effect to this principle. The other forms of aid are very limited at primary level and are almost entirely concerned with out-of-school activities ("oeuvres complémentaires de l'école") covering two main items: subsidies to various educational associations and "classes de neige". Subsidies for the latter are granted by the government to schools which send their children to the mountains for a month in winter where they continue their schooling and engage in open-air activities at the same time.

II. Indirect aid common to primary and secondary schools; transport to and from school

The cost of this aid, which is designed for children at primary and secondary schools, cannot be broken down as between the two types of schools concerned. It was, however, instituted by the Decree of 5th September, 1953, to promote the closing of state schools with a single class and very few pupils (generally in small villages) and benefit schools with several classes in bigger centres. Its field of application was subsequently widened as a result of the educational reform of which it became an instrument.

The Decree of 20th February, 1961, extended the eligibility of government subsidies to transport to and from school in the case of pupils in the primary, secondary and vocational schools, including those in their final year.

Children are transported:

- either by special coaches which are reserved for school children and follow a specific itinerary;
- or by the regular public road and rail services.

Generally speaking, the government covers at least 65 per cent of these transport costs. The local authorities and the families concerned normally bear the remainder of the cost in the following ratio:

- local authorities: 25 per cent
- families: 10 per cent

In actual fact, however, the local authorities often take over the proportion of expenditure not borne by the state.

In the case of pupils who are affected by the closing down of schools and who live over three kilometres away from their new school, the state subsidy may be increased to 75 per cent of the transport costs.

Since 1962 school transport which was reserved for pupils in the state system has been extended in certain cases to children attending private schools which have a contract with the government. These transport costs are under the budget item: "Relations between the State and private schools".

Neither the cost per pupil nor the cost per kilometre is uniform throughout the country. The increase in the appropriations in the Ministry of Education budget has been substantial and this is also the case with regard to the number of pupils transported. In 1967-68 the figure had risen to about 742,000 from approximately 600,000 in the previous year.

III. Aids at secondary level

A. Direct Aid

1. State allocations for secondary schools. These allocations are designed to help families unable to afford the extra cost arising from the circumstances in which their children have to continue their secondary education.

The award of an allowance depends on the school record and the family resources but state aid can be granted only to pupils who have been recognised as suitable to pursue their studies in the direction chosen or advised.

The procedure for the award of an allowance begins with the consideration of applications by the boards set up under the Decree of 18th December, 1959. These boards are departmental and have considerable powers of discretion. Where an application is refused (no reason is given) families may appeal against the decision to a regional board whose competence extends to the area covered by the Académie and which is under the chairmanship of the Recteur de l'Académie. If the application is again refused, appeal may be made to the national board directly responsible to the Minister.

The findings of the boards are submitted to the Recteur for approval. Acting within the limits of the appropriations available, the Recteur fixes the scale of each allowance in view of the family's means and the costs arising from the circumstances in which the pupil has to continue his studies. In the case of boarders, the cost of board and lodging at the school concerned is taken into account.

The evaluation of the family's resources is a very difficult task in which not only the level of the family's income but also its other commitments have to be taken into consideration. The board's work is facilitated by the use of a reference scale ("barème"). This gives each family a maximum rating beyond which an allowance cannot be awarded except in recognition of specific factors which the ordinary reference scale does not show and which emerge from a study of the candidate's application papers.

The assessment of the family's resources is based on information provided by the applicant, e.g. pay slips, income tax returns, etc.

This allowance ("bourse nationale") is granted for the normal duration of the school course. It may be suspended if the beneficiary has to repeat a year, but only after the school record has been taken into account.

The value of the allowances themselves is a multiple of a unit known as the "part", the value of which amounted to 117 francs in 1969. The number of parts awarded ranges between 2 and 9 and sometimes rises to 12 in exceptional cases. The average number of parts awarded has been 4 for the first cycle and 5 for the second cycle since 1966.

Allowances are still paid on the understanding that the pupil's attendance is satisfactory and that he frequents a state school or private school eligible to receive holders of such allowances and provided he remains in the particular class for which the allowance was requested.

Children from farming areas

A reform to facilitate the procedure for awarding allowances and to prescribe more satisfactory criteria than those hitherto used has often been discussed at the Ministry of Education. One of the systems contemplated would be to set aside a percentage of available allowances for each of the major socio-professional categories.

Pending a reform of this kind it has proved necessary to amend the present system for the benefit of children from farming areas in order to allow for the difficulty these children encounter in pursuing their studies. In the first place, a different set of criteria has been adopted for assessing family resources, thereby making it possible in 1966 to approve 80.9 per cent of the applications for allowances for the children of farmers and 94 per cent of applications for children of agricultural workers. In 1967 these percentages amounted respectively to 81.68 per cent and 97.56 per cent and they continue to rise regularly. Furthermore, children from the agricultural community may obtain larger allowances (one, two or three extra parts) to make up for their isolation and their distance from school and to encourage their families to send them to school.

Reform in the procedure for awarding allowances to pupils in secondary schools as from the school year 1969-70

As allocations in 1968-69 were in excess of budget appropriations owing to the distribution of too many allowances based on family circumstances alone, the Ministry was obliged to adopt a different procedure for distributing aid.

The new procedure is based on a published scale which enables the family's taxable income to be set off against a certain number of family responsibilities. After the number of allowances and the respective size of each allowance expressed in parts have been determined by this procedure, the value of the part is calculated from the available budget appropriations.

This procedure applies only to new applications for allowances. Those already granted are renewed at the old rates and under the old rules.

A further change introduced with effect from the school year 1968-69 concerns the number of parts in each allowance. The widespread practice of supplying school books free of charge in the first cycle of the secondary course and subsidising the travelling expenses of pupils who live at a distance from their schools is obviously tending to make the first cycle of the secondary course entirely free of charge. The provision of allowances to enable pupils to attend school is therefore no longer necessary at this stage. The Ministry of Education has a short-term plan for making the first cycle of the secondary course entirely free of charge so that the whole period of compulsory education will then become free. A commission was recently set up by the Ministry of Education to consider how this principle could be given effect. Pending this development, it has been decided, in recognition of the material facilities extended to pupils in the first cycle, to reduce the average number of parts granted at this level from four to three and to increase the average number of parts granted to pupils in the second cycle of the secondary course from five to six.

Apprenticeship allowances

Up to 1966 the Ministry of Education budget had an item "apprenticeship allowances". The latter were intended for pupils at Collèges d'enseignement technique only. A considerable effort was made to assist pupils at these schools whose average allowance was six parts instead of four. The apprenticeship allowances have now been discontinued and the relevant funds have been added to the appropriations for allowances to pupils in secondary schools.

Table A relates to the period from 1963-64 to 1969-70 and shows trends in the number of allowances distributed, the total appropriations involved and the average size of allowances.

The table reveals the increase in the number of eligible pupils, which multiplied by 1.7 in seven years. Appropriations were multiplied by 1.8 during the same period, but if this figure is multiplied by a conversion factor allowing for the fall in the purchasing power of the currency between 1963 and 1969, it will be seen that the improvement is slighter than appears. The actual increase ranges from 100 to about 162 (the conversion factor for the last year is not yet available). In this case the new method of calculating the size of individual allowances indicates not a slight improvement (provided the year 1964-65 is excluded) but a definite decline, i.e. from 544 francs to 515 francs.

The conclusion to be drawn from this table is that the actual increase in appropriations for allowances to pupils in secondary schools has been shared among a proportionately greater number of pupils, thereby reducing the size of each allowance. Indeed, over the period reviewed, the number of allowance-holders has increased more rapidly than the number of pupils: whereas the proportion of allowance-holders was 31.74 per cent in 1963-64, it amounted to 35.47 per cent in 1968-69.

Table B, relating to the socio-professional origin of allowance-holders in secondary schools in 1960 and in 1968, compares their social origin with that of secondary pupils as a whole and assesses any change that may have occurred between these two years. The actual figures available for 1968-69 are still incomplete and, in particular, it is not possible to give a breakdown of all pupils by socio-professional category and the percentage of allowance-holders in each category. A breakdown of the active population is, however, available.

Before an opinion is expressed on the breakdown of allowance-holders it should be noted that the percentage breakdown of the active population has changed. In particular, the active farming population now accounts for no more than 15 per cent instead of 20 per cent of the total active population and the percentage of heads of firms (in industry, commerce and the crafts sector) has fallen by one point. The categories which have benefited from the change are mainly "self-employed professional workers and top management" (plus 0.92 per cent), "middle-management" (plus 2.05 per cent), "salaried employees" (plus 2.38 per cent), and "manual workers" (0.93 per cent).

This may, therefore, explain the proportional decline in the number of allowance-holders from farming areas or small industry, trade and the crafts sector. A similar decline has taken place in the most favoured sectors ("self-employed professional workers and top management") and also among "salaried employees". On the other hand, the percentage of allowance-holders with working class backgrounds has increased by 6 per cent. while those from the "employees in the service sector" and "other categories" has shown an overall increase of 5 per cent.

TABLE A

TREND IN ALLOWANCES TO PUPILS IN SECONDARY SCHOOLS

BETWEEN 1963-64 AND 1969-70

(budget figures)

YEAR	NUMBER OF ALLOWANCES	APPROPRIATIONS	AVERAGE SIZE OF ALLOWANCE	APPROPRIATIONS IN CONSTANT FRANCS, 1968 (1)	AVERAGE SIZE OF ALLOWANCE	CONVERSION FACTOR IN CONSTANT FRANCS	NUMBER OF PUPILS ENROLLED IN SECONDARY EDUCATION IN THOUSANDS (2)	PERCENTAGE OF ALLOWANCE-HOLDERS
1963-64	980,490	476,572,040	486	533,760,685	544	1.12	3,089,500	31.74
1964-65	1,037,490	539,206,040	519	593,126,644	572	1.10	3,261,000	31.82
1965-66	1,194,718	598,744,000	501	640,656,080	536	1.07	3,367,000	35.48
1966-67	1,253,783	641,377,000	511	667,032,080	532	1.04	3,605,000	34.77
1967-68	1,365,596	701,074,000	513	722,930,220	529	1.03	3,850,000	35.47
1968-69	1,540,528	793,217,000	515	793,217,000 (3)	515	1.00	n.a.	-
1969-70	1,671,039	864,200,000	517	864,200,000	-	-	n.a.	
Trend expressed as an index								
1963-64	100	100	100	100	100			
1969-70	170	181	106	162	94			

Source: Ministry of Education - Allowances Branch

Notes:
1) After multiplication by a conversion factor representing the change in the purchasing power of the franc.
2) OECD source. Budget figures for teacher-training colleges.
3) In the absence of more precise figures the purchasing power index is assumed to have remained unchanged since 1969.

TABLE B

SOCIAL ORIGIN OF ALLOWANCE HOLDERS IN SECONDARY SCHOOLS

SOCIAL CATEGORY	PERCENTAGE OF PUPILS IN THIS CATEGORY AS A RATIO OF THE TOTAL NUMBER OF PUPILS 1960	PERCENTAGE OF ALLOWANCE-HOLDERS IN THIS CATEGORY AS A RATIO OF THE TOTAL NUMBER OF ALLOWANCE HOLDERS 1960	PERCENTAGE OF ALLOWANCE-HOLDERS AMONG PUPILS IN THIS CATEGORY 1960	PERCENTAGE OF ALLOWANCE-HOLDERS IN THIS CATEGORY AS A RATIO OF THE TOTAL NUMBER OF ALLOWANCE-HOLDERS 1968-69	ALLOWANCE-HOLDERS AS A PERCENTAGE OF THE ACTIVE POPULATION IN 1968 (1)
Farmers	7.0	12.6	44.5	12	12.04
Farm employees	1.7	4.3	71.6	3.7	2.08
Employers	17.3	8.4		4.1	9.60
- industry	(1.8)	(0.7)	2.8	n.a.	n.a.
- commerce	(9.2)	(3.0)	10.7	n.a.	n.a.
- crafts sector	(6.3)	(5.2)	27.0	n.a.	n.a.
Self-employed professions and top management	11.3	1.0	2.6	0.9	4.86
Middle management	13.8	6.1	14.2	4.7	9.85
Salaried workers	16.5	10.0	32.6	15	14.82-
Manual workers	22.5	38.6	45.7	44.4	37.66
Employees in the service sector	1.4	2.3	58.9	3	5.73
Without occupation	2.1	4.4	60.4	6.6	2.56
Other categories	5.6	3.7	22.6	5.7	
Total	99.8	99.6		100.00	100.00
Average percentage of allowance holders as a proportion of all pupils		24.3			

Source: Report to the National Assembly in 1967 (141) and Ministry of Education

Note: 1) Census figures

Further statistics would be required to assess how far the efforts to improve the distribution of allowances have been successful and particularly whether the deficiencies registered in 1962 in the enrolment of children from the least favoured categories ("agriculture", "farm employees", "employees in the service sector", and to a lesser degree "manual workers") have been partly or entirely made good.

2. Maintenance of pupil-teachers during their period of study

Pupil-teachers taking the three-year secondary course in teacher training colleges for the baccalauréat are paid a maintenance allowance for the nine months they attend classes each year. In 1969 this annual allowance amounted to 1,625 francs. Unlike pupils in secondary schools, whose allowances are not automatically renewed, the pupils in teacher training colleges receive their grants as a right. Their parents sign an undertaking binding their son or daughter to serve a ten-year period as a primary school teacher on the completion of their total training period.

This does not, of course, make pupil-teachers ineligible for the normal allowances available to pupils at secondary schools when their family resources are inadequate. Up to 1965 these allowances were shown separately in the budget.

3. Other forms of allowances

There are a number of other direct subsidies to pupils in secondary schools but these are more exceptional. They include allowances to French children residing abroad and attending French schools, allowances to pupils in the overseas departments, allowances paid to handicapped children, and allowances paid to children in the pre-baccalauréat form of technical lycées for the purchase of an initial outfit.

It should be noted that the allowances for secondary school pupils are not reserved entirely for those in state schools. The Minister may also make grants to pupils attending private schools which have a contract with the state or schools which have no contract but are eligible to receive allowance-holders.

B. Indirect Aid

Reference has already been made to the extension of school transport and Book I(1) drew attention to the beginning of a policy of supplying school books free in the first cycle.

IV. Volume of direct aid to pupils in primary and secondary schools between 1962 and 1969 (Table C)

The figures in this table were drawn from the budgets voted, i.e. they relate to the civil year and not the school year. They are expressed in current francs.

This table covers all direct aid to pupils in primary and secondary schools for the period 1962 to 1969.

Most aid (practically 91 per cent of direct aid in 1969) consisted of allowances to secondary school children, including pupil-teachers working for the baccalauréat, and certain other subsidies to secondary school pupils such as special assistance to orphans already drawing allowances in Collèges d'enseignement technique and a number of allowances to pupils in the overseas departments.

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1) Part One, Chapter III, D 6.

The second important chapter covers maintenance allowances for pupil-teachers preparing for the baccalauréat, which in 1969 accounted for 3.97 per cent of all direct aid.

Other aid therefore totals about 5 per cent of all aid to pupils in primary and secondary schools.

A closer analysis of Table C shows the policy pursued by the Ministry of Education in this respect.

The first principle which emerges is the restriction of aid in primary schools to really exceptional cases where free tuition, free transport and free books do not suffice to enable the pupil to attend school. This explains why the allowances or subsidies are calculated to cover the pupil's maintenance or outfit. Examples are pupils in special schools for handicapped children and schools reserved for children of bargees, travelling showmen etc. Similarly, aid to families and local authorities to ensure school attendance during the compulsory period is granted only to boarders and day-boarders, i.e. children who attend schools at a distance from their homes, thus entailing extra expenditure which families cannot afford. Lastly, the primary school allowances paid to children in the overseas departments or territories are designed to meet the special circumstances of these pupils who live at a distance from schools in countries with a particularly low standard of living.

The second principle is the intensification of subsidies to pupils in secondary schools. Owing to the changes which occurred between 1965 and 1966 in the budget presentation of appropriations for allowances, it has not been possible to calculate the proportion of allowances granted to pupils in technical education since that date.

Before 1966 pupils in Collèges d'enseignement technique received, in the form of apprenticeship allowances, less than one quarter of the subsidies granted to pupils in secondary schools. As the following figures will show, this proportion was even declining.

- 24.86 per cent in 1962
- 24.28 per cent in 1963
- 23.72 per cent in 1964
- 23.30 per cent in 1965

On an average, the above allowances consisted of six parts.

The educational reform of 1966 led to a change in the budget presentation of allowances and the disappearance of apprenticeship allowances. The allowances now available are those for pupils in primary schools, which used to consist of an average of four parts (now three parts) and for pupils in secondary schools which used to consist of an average of five parts (now six). A small additional subsidy is represented by the special aid given to orphans in Collèges d'enseignement technique.

The current budget presentation does not make it clear whether previous efforts to assist pupils at CET's have been maintained and whether they have been extended to pupils at technical lycées.

TABLE C

VOLUME OF DIRECT AID PAID TO PUPILS IN PRIMARY AND SECONDARY SCHOOLS FROM 1962 TO 1969

(In current francs)

Educational level		1962	1963	1964	1965	1966	1967	1968	1969
Primary	National training schools (maintenance and outfits)(43.32 para 1)	1,337,310	1,337,310	1,337,310	1,037,310	2,111,310	2,257,310	2,549,310	4,049,310
Primary	National schools reserved for children of bargees, travelling showmen and scattered families (maintenance and outfit) (43-32 para. 2)	1,264,190	1,264,190	1,264,190	1,014,190	1,014,190	1,043,190	1,101,190	1,101,190
Primary	Ecoles nationales Hériot and de la Verrière (maintenance and outfit) (43-32 para. 3)	-	-	-	-	-	325,000	325,000	635,000
Primary and Secondary	Relations between the State and ~~private secondary schools:~~ allowances (43-34 para. 2)	n.a.	n.a.	6,800,000	10,000,000	15,000,000	15,000,000	15,000,000	15,000,000
Secondary	Allowances for pupils at secondary schools (43-71 para. 2)	410,787,700	446,688,920	499,225,660	555,827,790	599,731,260	633,081,330	653,778,430	726,466,520
Primary and Secondary	Allowances to French children residing abroad and attending French schools (43-71 para. 4)	4,600,750	4,600,750	4,600,750	7,000,750	7,500,750	7,700,750	8,500,750	9,050,750
	Special assistance to children of French families residing abroad (43-71 para. 4)	-	n.a.	-	-	15,000	15,000	15,000	15,000
Secondary	Handicapped children - allowances (43-71 para. 6)	-	-	1,000,000	1,000,000	1,000,000	1,000,000	1,600,000	2,800,000
Primary	Assistance to families and local authorities to enable children to attend school in the compulsory period (46-31)	-	-	-	-	-	14,000,000	14,000,000	7,000,000
Secondary	Maintenance of pupil-teachers during their period of study (34-34)	23,287,983	26,142,930	31,664,700	34,241,500	35,362,000	32,862,000	29,862,000	31,802,000
	Special allowances and travelling expenses from port to port for pupils or students from the OTs or the Community.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
Primary	Primary schools in the OTs (maintenance and outfit) (43-32 para. 4)	-	-	-	-	-	540,000	1,070,000	1,330,000
	Total	441,277,933	480,034,100	545,892,610	610,321,540	661,734,510	707,824,580	727,801,680	799,277,770
	Percentage of the Ministry of Education Budget	4.84	4.42	3.97	3.89	3.79	3.81	3.54	3.45

Source: Budgets voted

Note: 1) Overall figure for higher education and other levels of education.

TABLE D

INDIRECT AID TO PUPILS IN PRIMARY AND SECONDARY SCHOOLS

AS SHOWN IN THE MINISTRY OF EDUCATION BUDGET FROM 1962 TO 1969 (In current francs)

Educational Level		1962	1963	1964	1965	1966	1967	1968	1969
Primary and Secondary	Relations between the State and private schools: school transport	n.a.	n.a.	6,800,000	10,000,000	15,000,000	15,000,000	15,000,000	30,000,000
Primary and Secondary	School transport	26,000,000	26,000,000	69,000,000	88,250,000	104,250,000	126,250,000	153,250,000	173,550,000
Primary and Secondary	Supply of school books	-	-	14,000,000	14,000,000	6,000,000	20,700,000	14,500,000	15,000,000
Primary and Secondary	Out-of-school activities	2,317,620	2,274,632	2,381,632	2,337,332	2,337,332	2,110,352	2,310,352	2,040,502
	Distribution of milk, sugar, etc.	-	-	-	-	18,000,000	-	-	
	Total	28,317,620	28,274,632	92,181,632	114,587,332	145,587,332	164,060,352	185,060,352	220,590,502
	Percentage of the Ministry of Education Budget	0.31 100	0.26	0.67	0.73	0.83	0.88	0.90	0.95 799
	Aid expressed in constant francs	33,133,019	31,667,588	101,399,795	122,608,445	151,410,025	166,990,403	185,060,352	220,590,502 (1)
	Trend expressed as an index	100	96	306	370	456	510	559	666

Source: Budgets voted

Note: 1) Total considered unchanged in the absence of other information.

If the increase in direct aid in the course of the period under review is evaluated as an index, it will be seen to have risen from 100 to 181. A more realistic idea of this increase may be obtained by use of a conversion factor representing the trend in the purchasing power of the currency. The result is 100 to 154 (Table E).

V. Indirect aid to pupils in primary and secondary schools as shown in the Ministry of Education budget from 1962 to 1969 (Table D)

The bulk of this aid falls into two important chapters: school transport and school books. As regards school transport, the increase in the period from 1962 to 1969 was really spectacular: appropriations rose from 26 to 174 million francs and even 204 million francs if allowance is made for the appropriations used for the transport of pupils in private schools.

The chapter on school supplies shows some irregularity and this is partly due to the renewal of text books every three years and partly to the gradual extension of the subsidy during and after 1967 to pupils at CEG's and in classes 4 and 3 of the CES's and lycées.

The two other chapters mentioned are almost negligible, particularly the distribution of milk and sugar which have been dropped from the budget. The subsidies granted for out-of-school activities remained steady despite efforts to extend the benefit of the "classes de neige" (which represents the bulk of the funds available) to a greater number of children from urban areas.

An examination of all indirect aid to pupils in primary and secondary schools shows that it rose from index 100 to index 779 in the period under review. However, if the subsidies are converted into constant francs (see table E), the figure of 779 falls to 666.

The increase in the Ministry of Education budget continues to be substantial as appropriations for direct aid represented 0.95 per cent of the 1969 budget as compared with 0.31 per cent in 1962.

* * *

Table E recapitulates the appropriations for direct and indirect aid to pupils in primary and secondary schools during the period 1962 to 1969.

It will be seen that aid (even direct aid alone) increased faster than the number of pupils if the appropriations are expressed in constant francs: aid was multiplied by approximately 1.5, whereas the number of pupils increased by 10 per cent.

This advance is particularly striking in the case of indirect aid which rose from index 100 to index 666 (in constant francs).

This general effort reflects the Ministry of Education's policy of making education completely free in the first cycle of the secondary course and thus throughout the whole period of compulsory education.

TABLE II

OVERALL VOLUME OF DIRECT AND INDIRECT AID TO PUPILS IN PRIMARY AND SECONDARY SCHOOLS FROM 1962 TO 1969

Year	In current francs			Conversion Factor (1)	In constant francs		
	Direct Aid	Indirect Aid	Total		Direct Aid	Indirect Aid	Total
1962	441,277,933	28,318,820	469,596,753	117	516,295,182	33,133,019	549,428,201
1963	480,034,108	28,274,632	508,308,740	112	537,638,201	31,667,588	569,305,789
1964	545,892,610	92,181,632	638,074,242	110	600,481,871	101,399,795	701,881,666
1965	610,921,540	114,587,332	725,508,872	107	653,686,048	122,608,445	776,294,493
1966	661,734,510	145,587,332	807,321,842	104	688,203,890	151,410,825	839,614,715
1967	707,824,580	164,068,352	871,892,932	103	729,059,317	168,990,403	898,049,720
1968	727,809,680	185,068,352	912,878,032	100	727,809,680	185,068,352	912,878,032
1969	799,277,770	220,590,502	1,019,868,272	n.a.	799,277,770 (2)	220,590,502 (2)	1,019,868,272 (2)
Trend expressed as an index							
1962	100	100	100		100	100	100
1969	181	779	217		154	666	186

Note: 1) Index of the purchasing power of the franc (Source INSEE).

2) Total considered unchanged in the absence of other information.

Chapter II

AID IN HIGHER EDUCATION

A. Direct Aid

1. Allowances to students for higher education

There are two types of allowances:

- normal allowances, i.e. the majority of cases; and
- special allowances for students preparing third-cycle doctorates or working for the agrégation and civil service examinations.

(a) Normal allowances may be granted to students who attend institutions eligible to receive allowance-holders pursuing post-baccalauréat courses.

Applications from candidates are considered by an administrative board on which students are represented and which is responsible to the rector of the Académie. The board has the power to award new allowances and renew existing ones. Allowances are renewed provided candidates pass their examinations and their family resources have not appreciably increased.

The sole criterion which determines the size of an allowance is therefore not the level of the candidate's studies but his family resources.

This procedure for awarding allocations, based on an assessment of the family's means, was criticised up to October 1969 because of its complexity and secrecy and the lack of uniformity between one Académie and another.

A new procedure for the award of allowances was adopted for the academic year 1969-70. It is based partly on the assessment of family resources by the income tax authorities and partly on the use of two scales: the first shows whether a family may claim a higher education allowance in the light of its resources and liabilities; the second determines the size of that allowance, taking into account the total number of applications approved and the total volume of appropriations available.

This scale applies only to the new applications for higher education allowances which will be submitted in 1969-70, the old allowances being renewed on the terms on which they were awarded, except when the family's resources or liabilities have substantially changed or the student has not passed the examinations normally required by his course of study.

The application of this new system should reduce the previous disparities between one Académie and another (with, in particular, the discarding of personal criteria), maintain expenditure on allowances within the limits of the budget appropriations and facilitate and accelerate the consideration of applications.

If this schedule were automatically applied certain very special and unforeseeable situations might well be overlooked. These special situations, which are by definition very limited, have to be submitted to the board for consideration.

Schedule of family responsibilities taken into consideration for the award of higher education allowances

	Responsibility rating in terms of points
Family with one dependent child (i.e., the candidate for the allowance)	9
- candidate a ward of the nation	1
- father or mother obliged to bring up one or more children unaided	1
- father and mother both employed	1
- husband or wife affected by a long period of illness or convalescence	1
- point awarded for each dependent child after the first	1
- point awarded for each child engaged in a - course of higher education after the first	1
- child at home suffering from a permanent disability and ineligible for a special education allowance	1
- dependent parents living with the family and suffering from a disability or a severe illness	1

Note: These family responsibilities are evaluated in points.

A number of points is awarded for each item.

The total number of points represents a maximum level of resources to be taken into account for the award of an allowance.

Source: Ministry of Education.

Comparative Table of Responsibilities and Resources

Total Number of Responsibility Points	Maximum limit of resources up to which an allowance may be awarded	Total Responsibility points	Maximum limit of resources up to which an allowance may be awarded
9	10.260	16	18.240
10	11.400	17	19.380
11	12.540	18	20.520
12	13.680	19	21.650
13	14.820	20	22.800
14	15.960	21	23.940
15	17.100	22	25.000

Source: Ministry of Education

The calculations made by the Ministry of Education for the distribution of its allowance appropriations to the beneficiaries have resulted in the determination of seven different rates of allowances. In 1969-70 the lowest annual rate was 1,386 francs, and the seventh 4,734 francs, the average scale being 3,060 francs.

(b) Special allowances are not subject to the above rates and are awarded in respect of other criteria.

Third-cycle allowances

Since October 1955 students preparing a third-cycle doctorate have been eligible for an allowance. Up to 1969-70 this allowance was granted to all applicants irrespective of their family circumstances.

The limitation in allowance appropriations and the steady increase in the number of third-cycle students have compelled the Ministry of Education this year to restrict the number of allowances to the 1968-69 figure plus seven per cent (average increase in the number of students). In future a selection will have to be made from applications based on the university intake and, to a lesser extent, on the students' family circumstances.

The selection of applications is made by a university board.

Two allowance rates were fixed for the year 1969-70:

- 4,734 francs (the seventh scale of the normal allowances) for the first year of the third cycle;
- 5,292 francs for the second year.

Agrégation allowances

In the last few years agrégation allowances have, like third-cycle allowances, been granted to all students who applied. In 1969-70 they were therefore subject to the same limitations and conditions as third-cycle allowances.

Agrégation allowances are granted for one year and may be renewed for a second year, if approved by the chairman of the board. Where students pass the written examination but fail the oral, their allowances may be renewed for a third and fourth year.

Renewed allowances are at a standard rate i.e. 5,292 francs for 1969-70.

Civil service allowances

These are reserved for students registered at centres which prepare them for civil service examinations (CEPAG's) where they work for the competitive entrance examination to the Ecole nationale d'administration, successful candidates agreeing to serve for a given number of years in the civil service.

The rate of allowances is that prescribed for the sixth or seventh scale of normal allowances.

Table F shows the number of allowance-holders in higher education, the average size of allowances and the total appropriation for allowances from the period 1963-64 to 1969-70.

It should be pointed out that these allowances include all grants to post-baccalauréat students from the Ministry of Education. The table does not therefore show allowances paid to foreign students (about 20,000 per year at an annual rate of approximately 7,000 francs) which fall within the foreign affairs budget, nor does it include

TABLE F

Allowances for students in higher education - increase in the number of allowance-holders, appropriations and rates of allowances - budget for the academic years 1963-64 to 1969-70

Year	Number of Allowances	Appropriations (University year)	Average rate of Allowance	Conversion factor in francs 1968	Appropriations expressed in francs 1968
1963-1964	80,200	168,244,200	2,097	110	184,958,620
1964-1965	86,700	203,520,820	2,347	107	217,775,037
1965-1966	97,110	235,918,645	2,429	104	245,355,391
1966-1967	107,000	269,683,645	2,520	103	277,774,154
1967-1968	115,000	312,404,000	2,717	100	312,404,000
1968-1969	132,000(1)	398,723,000	3,020	-	398,723,000(3)
1969-1970	143,880(2)	442,719,000	3,077	-	442,719,000(3)
Increase expressed as an index					
1963-1964	100	100	100		100
1969-1970	179	263	147		239

Source: Ministry of Education

Notes:
1) Provisional figure
2) Estimate
3) Figure assumed to be unchanged in the absence of other information.

the limited number of allowances which students may obtain from private institutions, enterprises or foundations. It does, however, include students who hold allowances from the Ministry of Education but attend private institutions eligible to receive holders of state allowances.

It is impossible to show the number of allowance-holders in each category during the period under review as each Académie, up to 1969-70, received a lump sum for allowances which were distributed to the beneficiaries by its authorities. The new regulations, which are more rigid but more automatic, will in future show this distinction. During the year 1968-69 students drawing special allowances represented 5.68 per cent of all allowance-holders in higher education. The breakdown is as follows:

- 2.14 per cent studying for the agrégation;
- 1.74 per cent engaged in third-cycle studies (first year);
- 1.17 per cent engaged in third-cycle studies (second year);
- 0.63 per cent working for civil service examinations.

It may be estimated that these percentages are roughly the same for the other years.

As the Ministry of Education budget relates to the civil year and allowance appropriations are calculated for the university year, the proportion of the budget they account for cannot be gauged with any accuracy. It may, however, be estimated that appropriations for allowances to students in higher education amounted to approximately 1.6 per cent of the total Ministry budget. The proportion of allowance-holders varies from 21 to 25 per cent of the number of students.

It should be stressed that the Ministry's allowance policy is a very generous one as about 25 per cent of students draw state aid without any counterpart and without being in the least obliged to pursue any particular form of study. The only exceptions are the salaried students who receive state aid in recognition of their undertaking to serve for ten years in the teaching profession.

2. Salaried students

In the Ministry of Education budget there are four different groups of salaried students, i.e. pupil-teachers at teacher training colleges for primary schools who are paid for their years of post-baccalauréat study, students at the Ecoles Normales Supérieures, student-teachers at the Ecoles Nationales Normales d'Apprentissage (ENNA's) and student-teachers at the Instituts de Préparation aux Enseignements du Second Degré (IPES's).

(a) Salary paid to pupil-teachers at teacher training colleges for primary schools

The pupil-teachers concerned are pursuing their vocational training, i.e. taking a two-year post-baccalauréat course in teacher training colleges for primary school teachers. They are subject to the regulations of the Decree of 17th November, 1947, which attributes to them the status of civil servant "stagiaire". Under this Decree a specific sum is paid to them each month (including the school holidays). The students do not actually receive their entire allocation as only the first part is designed to cover their personal expenditure, the second part covering their board and lodging (they are normally at boarding schools) and the third part representing a gratuity which they draw only when they leave the training college.

TABLE G

Teacher training colleges for primary schools, trend in the number of pupil-teachers and replacement probationers and relevant budget appropriations from 1963 to 1969

Year	Number of pupil-teachers in their 1st and 2nd years	Number of replacement probationers	Budget appropriations in current francs	Annual salary	Gross monthly salary	Budget appropriations in 1968 francs(1)
1963	9,500	2,000	[illegible]	[illegible]	[illegible]	81,495,[illegible]
1964	9,500	2,000	89,496,680	7,702.32	640.53	90,446,[illegible]
1965	10,000	2,000	97,646,640	8,137.22	678.10	104,401,705
1966	10,000	2,000	97,646,640	8,137.22	678.10	101,352,506
1967	9,370	2,000	96,224,310	8,463.00	705.25	99,111,[illegible]
1968	8,370	1,400	95,990,850	9,041.58	753.46	95,990,850
1969	14,100	1,400	[illegible]	9,765.29	813.77	[illegible](2)
Trend expressed as an index						
1965	100		100	100		100
1969	141		[illegible]	[illegible]		[illegible]

Source: Budgets voted

Notes: 1) After multiplication by the index of the purchasing power of the franc.

2) Assumed to be unchanged in the absence of other information.

It will be remembered that this salary, which is a continuation of the maintenance allowance they drew when working for the baccalauréat, is available only if they undertake to teach for 10 years on leaving the training college. If there is any breach of this commitment the student is required to refund the entirety of the sums he has drawn.

Students at training colleges receive the remuneration of probationary primary school teachers until they pass their final examinations.

Students for whom there is no room at a boarding school receive a residence allowance. As they are considered to be on the state educational establishment their salary is normally expressed as an index, but in Table G it has been shown in francs to make the situation clearer.

In addition to these probationary teachers, mention must be made of the replacement probationers. The latter receive the same salary as the probationary students during their vocational training.

The number of replacement probationers shown in the budget was maintained at 2,000 annually from 1963 to 1967 but was reduced to 1,400 in 1968 and 1969.

The number of pupil-teachers amounted to approximately 10,000 in the budgets for 1963 to 1967. In 1968 they were reduced to 8,570 but increased to 14,870 in 1969. For 1970 the figure should be considerably higher, i.e. about 30,000.

Overall budget appropriations have more than doubled in the last seven years, i.e. from 72.7 to 158.9 million francs. They have kept pace with the budget itself as their proportion of the Ministry of Education budget as a whole has remained practically unchanged: approximately 0.49 per cent in 1963 and about 0.49 per cent in 1969.

Table G also shows that the salaries of pupil-teachers and replacement probationers increased during the period under review slightly more rapidly than the average salaries of primary school teachers. From index 100 in 1963 the salaries of pupil-teachers and probationers rose to 154.5 and the salaries of primary school teachers increased to 149.2. Discounting the effects of currency fluctuations, these salaries clearly improved in the course of the period.

(b) Salaries of students at the teacher training colleges

There are six teacher training colleges: Ulm and St. Cloud (men), Sèvres and Fontenay-aux Roses (women) and the Ecole normale supérieure de l'enseignement technique (ENSET) at Cachan, and the Ecole normale supérieure d'education physique et sportive.

To give a certain homogeneity to the series we have not taken account of the number of students at the Ecole normale supérieure d'education physique et sportive which is now on the budget of the Ministry for Youth and Sport. For information it may be stated that this school had an enrolment of 440 students in 1963, each drawing a gross annual salary of 8,732 francs. In addition, 300 students were on the books of the Institut de préparation au professorat d'education physique et sportive and drew the same salary.

The students at the teacher training colleges are recruited by an annual entrance competition open to holders of the Baccalauréat after a two-year period of preparation. Students at these institutions enjoy special facilities and spend three or four years working for their university degrees and preparing for the competitive examination for the teaching profession. Whenever possible they are accommodated at the school.

Table H shows the trend in the intakes of the training colleges and the trend in the appropriation for their salaries. The total figure is very small (1.5 per cent of the Ministry of Education budget) as these schools take a very limited number of students: 2,171 in 1965 for the four years and 2,431 in 1969, of whom 621 were in their first year. On the other hand, the students enjoy a number of privileges: in 1969 they received a gross monthly first-year salary of 1,050 francs and 1,100 in their second, third and fourth years. The cost of their board and lodging is also moderate. The gross monthly commencing salary of a primary school teacher in the same year amounted to 825 francs and the average salary of teachers with experience was 1,215 francs.

The salary trend in the period under review was identical with that for teachers in secondary schools, rising from index 100 to index 144.7 for first-year students and from 100 to 150.9 for students in other years.

There are 260 more students but this increase is no guide to the number of candidates who sit for the competitive entrance examination as the number of places available is fixed by ministerial decision. For example, between 1965 and 1968 the new intakes amounted to 614. The figure was 621 in 1969.

Students at teacher training colleges undertake to teach for a period of 10 years. If they do not keep to their commitment they are not normally required to refund the sums paid to them as it is generally considered that their activities will be of value to the country in any event.

(c) Salaries paid to student teachers at the Instituts de préparation aux enseignements de second degré (IPES's)

The IPES's were set up under a Ministry of Education Decree of 27th February, 1957, designed to encourage students to enter the teaching profession.

The first IPES's were opened in the humanities and science faculties but had no specific pedagogical objective. They were designed to offer optimum working facilities (they were required to attend extra practical courses, read papers, etc.) and their students were given the status of salaried civil servant ("stagiaire"). In exchange, students obtaining a place at an IPES had to agree to serve for a continuous period in a state school on leaving the IPES. Their ten-year contract comes into force as soon as they enter their IPES.

The recruitment of "Ipésiens" is either by qualifications or competitive examination. The intake is a large one (Table H).

Recruiting by competitive examination takes place at the end of the first year of the first cycle. Applications may also be accepted from students at science or humanities faculties, secondary school pupils after one year of study who are doing a course of higher maths or advanced literature or have done the preparatory class for the Grandes Ecoles but have not yet completed their degree examination.

Candidates who may be recruited on the strength of their qualifications only are those who got as far as the oral examination for a scholarship to the Ecoles Normales Supérieures and holders of either the propédeutique certificate or one or two certificates towards a degree. They must not, however, have already passed their teacher's degree (Licence d'enseignement).

TABLE H

Students at the main teacher training colleges (1) - trend in numbers, salaries and relevant budget appropriations between 1963 and 1969

Year	1st year			2nd	3rd and 4th years		Total numbers	Total approp- riations in current francs	Total approp- riations in 1960 francs (3)
	Numbers	Budget approp- riations	Gross annual salary	Numbers	Budget approp- riations	Gross annual salary			
1963	2,171(2)	18,958,040	8,732	-	-	-	2,171	18,958,040	21,233,005
1964	2,193(2)	21,380,171	9,769	-	-	-	2,193	21,380,171	23,518,188
1965	614	6,588,466	10,730	1,611	18,078,980	11,222	2,225	24,667,446	26,394,167
1966	614	6,588,466	10,730	1,643	18,438,091	11,222	2,257	25,026,557	26,027,619
1967	614	6,852,240	11,160	1,643	19,176,275	11,672	2,257	26,028,515	26,809,370
1968	614	7,126,330	11,606	1,702	20,659,490	12,138	2,316	27,785,820	27,785,820
1969	621	7,849,657	12,640	1,801	23,865,972	13,186	2,431	31,715,629	31,715,629 (4)
Trend expressed as an index									
1963			100.0			100.0	100.0	100.0	100.0
1969			144.7			150.9	112	167.3	149.4

Source: Budgets voted

Notes: 1) Ecole Normale Supérieure, rue d'Ulm - Ecole Normale Supérieures de Jeunes Filles, Boulevard Jourdan - Ecole Normale Supérieure de Garçons de St. Cloud - Ecole Normale de Jeunes Filles de Fontenay-aux-Roses, Ecole Normale Supérieure de l'Enseignement Technique de Cachan.

2) Students in all four years

3) After multiplication by the index of purchasing power of the franc

4) Assumed unchanged in the absence of other information.

The "Ipésiens" pass their teacher's degree after two or three years' study. Those who obtain their diploma after two years' study may ask for an extra year's salary to continue their studies for the master's degree. In addition, 15 per cent of the "Ipésiens" in their third year are eligible for a fourth year of study to prepare for the agrégation.

In the view of the Ministry of Education, the IPES's have proved a worthwhile device for enabling potential shortages of secondary school teachers in all disciplines to be detected and prevented four years in advance.

The "Ipésiens" are therefore eligible for the status of probationary civil servants as part of the teaching establishment of the Ministry of Education.

Table I shows trends in the number of student-teachers at the IPES's as shown in the Ministry of Education budget, together with the gross annual salaries and relevant budget appropriations for the years 1963 to 1969.

The table reveals that after an increase of about 4,000 between 1963 and 1967, available places were reduced by about 4,000 in 1968 and 1969 as the Ministry considered that the present number of teachers was sufficient and that there were no further grounds for practising this type of aid intensively.

On the other hand, salaries continued to increase steadily, keeping pace with those paid to in-service teachers; expressed as an index they rose from 100 to 135.45 in the period under review.

It should be borne in mind that the IPES's are a very important factor in recruiting policy and that not only their salaries but also, and particularly, the size of their intakes are a reflection of the demand for teachers as registered by the Ministry.

The numbers shown in the table are theoretical maximum figures, i.e. the real figures fall lower. This is because students on unpaid leave and students whose appointment was deferred (about 6 per cent) have to be deducted from the total.

The salaries of student teachers have definitely improved in the seven years under review: they have been multiplied by 1.35 in current francs. If they are multiplied by an index for the purchasing power of the franc it will be seen that they have risen from 100 to 125.

(d) Salaries of student-teachers at Ecoles normales nationales d'apprentissage

The ENNA prepares students for posts in secondary technical schools. The entrance requirements vary from one category of candidates to another:

- Teachers of general subjects: the following may be candidates:
  - . certificated primary school teachers over 40;
  - . students who had passed the written test for entry to the Ecole normale supérieure de l'enseignement technique (ENSET) between 20 and 35;
  - . baccalauréat-holders who have passed one certificate for the licence d'enseignement, aged 20 to 35;
- Teachers of technical theory in technical training schools; the following may be candidates:
  - . those who have passed the written examination for entry to the ENSET;

TABLE I

STUDENT-TEACHERS AT INSTITUTIONS TRAINING SECONDARY SCHOOL TEACHERS - TREND IN NUMBERS, SALARIES AND RELEVANT BUDGET APPROPRIATIONS BETWEEN 1963 AND 1969

Year	Numbers shown in the budget	Budget appropriations in current francs	Gross annual salary	Gross monthly salary	Budget appropriations in 1958 francs (1)
1963	9,445	64,889,200.5	6,851	571	72,075,905
1964	10,943	88,905,309.0	8,125	677	97,795,840
1965	12,206	109,146,052.0	8,942	745	116,786,273
1966	13,006	116,299,552.0	8,942	745	120,951,538
1967	13,206	122,815,800.0	9,300	775	126,500,274
1968	12,006	121,925,232.0	9,672	806	121,925,232
1969	12,006	134,340,075.0	10,650	888	134,340,075 (2)
Trend expressed as an index					
1963	100	100	100		100
1969	133	207	155.5		184.0

Source: Budgets voted

Notes : 1) Multiplied by the index of the purchasing power of the franc.
2) Assumed unchanged in the absence of other information.

  . holders of a baccalauréat in mathematics or technology;

  . holders of a recognised engineering degree;

  . holders of a certificate of the école nationale professionnelle;

  . holders of a technician's certificate;

  . teachers of practical technical subjects, on the establishment of a CET;

- Teachers of practical technical subjects: candidates must have had five years' experience in their technical capacity.

Students are recruited annually by competitive examination. There are six schools throughout the country providing a one-year syllabus which includes a general education and a teacher training course. The latter is open to all trainees but may be differentiated to suit the various disciplines. During their year's study the trainee-teachers do periods of practical teaching at CET's.

The trainees also have the same status as pupils at teacher training colleges who are doing their vocational training. They are likewise required to sign a ten-year contract.

The salaries paid to these student-teachers is the minimum salary for teachers in this category in 1969, i.e. 12,046 francs. Their salary increase during the period 1962-63 to 1968-69 (see Table J) was therefore equivalent to that of established teachers: index rising from 100 to 153.

The trend in the number of students is much more significant (Table K). The first point to be noted is the very limited number of training schools for future teachers in CET's: up to 1965 there were no more than five, i.e. in Lyon, Nantes, Toulouse and Paris (two schools). The Lille school was opened in October 1965. (On the other hand, all the Académies have IPES's and one or more training schools for primary school teachers).

The number of students at these schools is likewise very limited although some of them take students over and above their theoretical capacity. In the last three years an effort has been made to increase intakes. The 1969-70 intake was twice as big as in 1966-67 and to meet these increased numbers new premises have been built and a school opened in Lille.

A further point which has significance is the very irregular trend in the number of students in each category. The number of student-teachers of technical theory at the Lille ENNA, which is the latest school to be opened, was 23 in 1967-68 but fell to 13 in the two succeeding years. A similar decline will be noted among student-teachers of practical technical subjects who numbered 142 in 1967-68 but fell to 119 and 85 respectively in the two following years (Table J).

At the ENNA in Lyon for student-teachers of general subjects there was a fall in intakes between 1964-65 and 1965-66. The numbers of student-teachers of technical theory rose from 73 to 116 between 1964-65 and 1965-66. It suddenly fell to 49 in the following year and then rose again to 134, subsequently falling to 125 and 110. Student-teachers of practical subjects increased from 48 to 71 in the period between 1962-63 and 1965-66. This increase accelerated and rose to 120 and 223 in the two following years to fall subsequently to 154 and 159 in 1968-69 and 1969-70.

Table J

Trend in the numbers of student-teachers registered at Ecoles nationales normales d'apprentissage, their annual salaries and the relevant budget position from 1962 to 1970

Year	Number of Students	Minimum annual Salary	Budget Appropriations
1962-63	809	7,775	6,289,975
1963-64	820	8,680	7,117,600
1964-65	871	10,194	8,878,974
1965-66	988	10,194	10,071,672
1966-67	892	10,602	9,456,984
1967-68	1,553	11,026	17,123,378
1968-69	1,752	12,046	21,104,592
1969-70	1,798	n.a.	

At the Nantes ENNA the trend seems to be even more erratic, at least as far as student-teachers of technical theory are concerned. After having stood at 50 in the first three years under review, they fell to 43 in 1965-66 then to 10 in the following year. They then rose to 30,to fall again to 14 and 11 in the past two years. On the other hand, the numbers of student-teachers of practical technical subjects rapidly increased up to 1968-69 reaching a figure of 186, but they have just fallen to 150.

At the Paris ENNA (rue de la Roquette) the trend has a different feature. After a decline in 1965-66 the number of student-teachers of general subjects in 1967-68 was multiplied by 2.5,rising to 151 in 1969-70. On the other hand, student-teachers of technical theory fell (irregularly) from 62 to 39 in the period 1962-63 to 1969-70. The numbers of student-teachers of practical technical subjects has steadily increased except in 1966-67, rising from 88 to 366. The reorganisation of this ENNA may explain the increase in these two categories of student-teachers in the last two years but does not justify the decline registered in the number of teachers of technical theory.

The number of teachers at the second Paris ENNA (rue de la Tour) showed a different trend from those at the other Paris school. Student teachers of general subjects doubled between 1966-67 and 1967-68. The increase was less regular in the case of student-teachers of technical theory; they numbered 140 in 1962-63, 168 in 1965-66, 131 the following year (1966-67) and 224 in 1967-68 and are still standing at the latter figure. On the other hand, student-teachers of practical technical subjects steadily declined from 53 to 21 between 1962-63 and 1967-68; the following year they rose to 64, falling again to 35 in 1969-70.

At the ENNA at Toulouse, the number of student-teachers of general subjects stood between 30 and 40 from 1962-63 to 1966-67 and rose to 48 in 1967-68 and to 90 in the following year. In 1969-70 they declined to 43. Student-teachers of technical theory reached their peak numbers in 1965-66 with 79; the figure fell to 64,65 and 57 in the following three years but has risen to 66 in the current year. The number of student-teachers of practical subjects dropped almost regularly from 23 to 11 in the first five years of the period under review; in 1967-68 it rose again to 19. The much greater numbers in the following two years must be explained as they do not represent a training session but a refresher course.

Despite the completely chaotic trend in the intakes of each school, the grand total of all three categories of student-teachers shows(except in 1966-67) a steady growth; this, however, may conceal the inadequancy of the efforts made in favour of this type of education which has been evident for a long time.

B. Indirect Aid

1. The "Oeuvres universitaires" (university welfare scheme)

The "Oeuvres universitaires" cover all activities designed to improve the living and working condition of French and foreign students eligible for social security benefits. They are administered by the Centre national des oeuvres universitaires et scolaires and the regional centres in each Académie, whose administration is supervised and co-ordinated by the Centre National.

Their role is similar to that of a welfare service for students although they also have other aspects. As a welfare service they are responsible for:

TABLE K

NUMBER OF STUDENT TEACHERS TRAINING AT ECOLES NATIONALES NORMALES D'APPRENTISSAGE BETWEEN 1962 AND 1970

Year	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1969-70	1970-71
Teachers of general subjects:								
ENNA at:								
Lille	-	-	-	-	-	-	30	38
Lyon	38	49	57	32	51	67	90	98
Nantes	31	34	39	33	40	59	59	61
Paris-Roquette	43	44	43	27	48	60	143	151
Paris-Tour	30	30	33	38	37	70	68	76
Toulouse	33	31	31	34	36	48	90	43
Total I	175	188	203	164,	212	304	480	467
Teachers of technical theory:								
ENNA at:								
Lille	-	-	-	-	-	23	13	13
Lyon	72	64	73	113	49	134	125	110
Nantes	54	50	55	43	10	30	14	11
Paris-Roquette	62	59	69	50	38	61	35	39
Paris-Tour	140	138	133	168	131	224	215	232
Toulouse	35	37	38	79	64	65	57	66
Total II	363	348	368	450	292	537	459	471
Teachers of practical technical subjects:								
ENNA' at:								
Lille	-	-	-	44	52	142	119[1]	85[2]
Lyons	48	59	64	71	120	223	154	149
Nantes	59	62	67	73	83	161	186	150
Paris-Roquette	88	87	99	124	100	146	340	366
Paris-Tour	53	52	49	42	22	21	64	35
Toulouse	23	24	21	14	11	19	50[3]	75[3]
Total III	271	284	300	368	388	712	913	860
Total I+II+III	809	820	871	968	892	1.553	1.852	1.798

Notes: 1) of which 52 are at the Annex de Valenciennes.
2) of which 2 are at the Annex de Valenciennes.
3) refresher courses for groups of 25 trainees.

(a) Receiving students and directing them to the services competent to handle their various problems.

(b) Accommodating students: for this purpose the centres directly administer university hostels, the construction of which is financed by the state or with its assistance. They reserve accommodation in low-rent dwellings and prospect for rooms in private houses.

For each room or flat in a hostel or a low-rent dwelling the state pays a service subsidy of 18 francs per month per student accommodated.

The specific problems of married students have long been a matter of immediate concern to the administrators of the oeuvres who have endeavoured to deal with them in various ways.

(c) Providing meals for students at university canteens which are built from state subsidies and are situated near either the university or its hostels. There are special restaurants for students who are obliged to observe a diet.

The state subsidises half the cost of preparing and distributing meals. The students pay the other half.

(d) Aiding students in financial difficulties. For this purpose the oeuvres have a university welfare fund ("Fonds de solidarité universitaire"). They handle donations from bodies outside the Ministry of Education from which they distribute allowances to students and they also administer any legacies.

(e) Aiding students to adapt by giving them the benefit of the advice of student counsellors who may, if necessary, direct students towards other and more specialised services.

(f) Helping students to fulfil themselves by providing funds for cultural activities, organising periods of study to bring them into contact with the business world and arranging international exchanges in co-operation with the Secretariat à la Jeunesse et aux Sports, etc.

(g) Caring for foreign students:

- administering the allowances paid to them by the French Government;
- providing for them materially;
- organising their studies in consultation with the Ministry for Foreign Affairs;
- guiding and supporting them in their studies;
- organising language courses to improve their French.

In addition to attending to their material welfare, the oeuvres universitaires try to foster positive contacts between the students and the authorities by associating students in the task of administration. They also try to organise a general policy in this field.

Organisation of Oeuvres universitaires

Most indirect aid to students is in the hands of the Centre National des Oeuvres Universitaires et Scolaires (CROUS) in each Académie. These are public corporate bodies with their own budget. The task of the Centre National is to lay down a general policy for aid and to provide the Centres Régionaux with assistance and guidance. In addition to tasks we have already listed which are directly designed to improve the living and working conditions of students, the responsibility of the Centre National is to investigate students' needs and to see that these are met by organising the necessary services which it assigns to the regional centres so as to promote schemes adopted by outside bodies with similar or complementary policies.

The Centre national des oeuvres universitaires et scolaires, which was set up under an Act of 15th April, 1955, is responsible to the Ministry of Education. Its budget has to be approved by the Ministry. It is run by a board of administration and a director appointed by the Ministry. Between 1955 and 1963 the board of administration was composed partly of students' representatives and partly of officials to enable the Oeuvres universitaires to be run on a joint basis. Between 1963 and July 1970 this system of joint management was superseded by the introduction of qualified experts appointed by the Ministry. The composition of the Centre National was therefore as follows:

- The Minister of Education or his representative, Chairman;
- the Directeur Général de l'enseignement supérieur or his representative, Vice chairman;
- a member of the Conseil d'Etat or the Cour des Comptes;
- the Directeur du Budget or his representative;
- three officials from the Ministry of Education appointed by the Minister who may appoint deputies to represent them, with the approval of the Minister;
- seven particularly well-qualified experts chosen by the Ministry of Education;
- seven student representatives chosen by the Ministry of Education from lists containing twice as many names as members required and submitted by the most representative national student associations.

In future, the board of administration will consist of ten Ministry officials, ten student representatives and ten specialists of whom five will be selected by the Ministry of Education from a list put forward by the students. The student representatives on the board of administration of the National Centre will be elected by those who are members of the regional council (vote by correspondence, candidates being elected from several lists on a proportionate basis).

Apart from formulating the general policy of the National Centre, the Council of Administration, which meets at least once a term, has a number of budget responsibilities:

- distributing the ordinary and special budget appropriations to the regional centres;
- collecting and distributing all donations, legacies subsidies and various forms of aid to promote the organisation, operation and development of its welfare work.

Like the National Centre, the regional centres are administered by boards of administration which are now composed on the same lines as the Conseil National. In future the boards of administration of the regional centres will be made up as follows:

- the rector of the Académie, Chairman;
- the university presidents and the directors of institutes of higher education;
- the same number of student representatives;
- in addition, six experts to be appointed by the rector who will choose half of them from those nominated by the student members of the board.

Students on regional councils are elected by a poll of all students eligible for the benefits of the oeuvres universitaires. The budget of the National Centre is financed exclusively from state subsidies but the budgets of the regional centres are partly covered by student contributions, mainly towards the operating costs of the university hostels and canteens.

Under the original legislation or the Acts subsequently passed, not all students are eligible for benefits under the ceuvres universitaires. Generally speaking, students are not entitled to CROUS cards unless they are under 26 years of age and do not exercise any employment or activity from which they earn more than a given figure, while their married partner must not have an income exceeding a specific figure. Entitlements to the benefits of the oeuvres universitiares may also be suspended if students fail to pass their examinations two years in succession. Exemptions to these rules may be made after consideration of the records of the student concerned or in the case of foreign students or students from the overseas territories. The upper limit of benefits is increased in the case of students who are married or have families.

The operating budgets of the oeuvres universitaires cover three main items

- university canteens;
- university hostels;
- university welfare.

to which should be added a number of other cultural and medical or social activities. Appropriations and subsidies for equipment have been included in Table L.

(a) University canteens

Allocations to cover the operating costs of university canteens accounted for most of the ordinary appropriations between 1962 and 1969. It should be noted that the figures in Table L represent the subsidy from the Ministry only.

In this branch, however, the principle is that the state pays half the cost of the meal when students are eligible for the benefits of the welfare service, the remainder being borne by the student. It is therefore worth comparing the figures in Table L with those in Table M showing the operational budgets for the canteens. These appropriations are more than twice as high as the subsidy from the Ministry in view of the fact that the canteens serve meals to students who are not eligible for the benefits of the welfare service.

In 1969, for example, the budget subsidy amounted to Frs. 110,101,000 and the budget (provisional) for operating the canteens amounted to Frs. 247,362,813. The number

TABLE L

UNIVERSITY WELFARE BRANCH (OEUVRES UNIVERSITAIRES)

	1962	1963	1964	1965	1966	1967	1968	1969	1970
University welfare fund (Fonds de solidarité)	2,200,000	3,150,000	3,500,000	4,050,000	4,250,000	4,830,000	5,130,000	5,630,000	
Operating expenses of university hostels	3,432,620	3,602,620	4,025,620	5,525,620	7,955,620	10,305,620	12,295,620	14,565,620	153,826,370
University canteens	36,660,000	41,860,000	51,048,000	57,518,000	68,215,000	76,853,000	91,353,000	110,101,000	
Upkeep and equipment of welfare services	2,004,000	2,804,000	3,588,000	4,643,000	4,998,000	5,830,000	6,230,000	6,519,750	
Welfare equipment	35,600,000	75,000,000	72,000,000	120,000,000	170,000,000	180,000,000	120,000,000	90,000,000	45,000,000 (2)
Subsidies for medical, social and cultural equipment	2,900,000	1,000,000	10,000,000	3,000,000	12,400,000	18,000,000	20,000,000	17,000,000	15,000,000
Miscellaneous(1)	580,000	2,395,000	2,602,000	2,637,000	1,955,000	1,160,000	1,430,000	1,910,000	non-specified(3)
Total	83,376,620	129,841,620	143,763,620	197,373,620	269,773,620	296,978,620	256,438,620	245,726,370	213,826,370
Increase expressed as an index	100	155.7	172.4	236.7	323.5	356.1	307.5	294.6	256.4(3)
Percentage of the budget of the Ministry of Education	0.9%	1.20%	1.05%	1.25%	1.54%	1.60%	1.24%	1.06%	0.81%
Conversion factor (constant francs)	1.17	1.12	1.10	1.07	1.04	1.03	1.00	-(4)	-(4)
Appropriations for "welfare" in 1968 francs	97,550,645	145,422,614	158,139,982	211,189,773	280,564,565	305,887,979	256,438,620	245,726,370	213,826,370
Increase expressed as an Index	100	149.1	162.1	216.5	287.6	313.5	262.8	251.9	219.1

Source: Budgets voted

Notes:
1) Covers "Social Activities", "University Travel Bureau" (up to 1965), "Welfare Schemes for Overseas Students" (up to 1966) "Medical and Social Activities" and "Medical and Social Services".
2) Estimates.
3) Provisional figure.
4) Figures unchanged pending additional information.

TABLE II

UNIVERSITY WELFARE SERVICE (OEUVRES UNIVERSITAIRES)
POSITION AS AT 1st JANUARY EACH YEAR

Year	Number of (subsidised) meals served	Operational budget for canteens	Number of places in canteens run by the Welfare Service	Number of beds in hostels
1962	31,768,580	budgets not individualised	22,900	14,358
1963	34,310,927	95,655,289	27,300	18,152
1964	38,090,115	116,003,471	33,6[illegible]4	22,284
1965	42,679,770	134,837,206	46,050	27,428
1966	46,616,088	154,617,357	54,306	43,441
1967	52,524,644	175,265,747	61,638	58,1[illegible]
1968	55,024,798	200,[illegible]03,7[illegible]2	69,887	70,023
1969	65,700,000 (forecasts)	247,362,813	80,237	81,0[illegible]
Trend expressed as an index				
1962	100	100	100	100
1969	206.8	250(1)	350	564

Source: Centre National des Oeuvres Universitaires et Scolaires

Note: 1) Since 1963

of (subsidised) meals served was about 65,700,000. During the period 1962 to 1969 the number of meals served approximately doubled and the number of places in canteens increased 3.5 times. Nevertheless, the actual improvement in student amenities is not directly proportionate to these figures as many canteens operate at a fraction of their capacity in the evening.

Restaurants are also available for students who are obliged to observe a diet. The budgets and subsidies shown in Tables L and M relate solely to the canteens run by the welfare service. This therefore excludes restaurants which, while approved by the welfare service, do not belong to it. Restaurants are often approved as a result of personal initiative on the part of individual students or student associations.

The principle of joint management also arises in the case of applications for residence at a student hostel. The candidate submits his application to a joint committee, which comprises 50 per cent of students and is set up by the Board of Administration of the regional welfare centre. The requirements for admission (social and university) are to be made public. In connection with the question of joint management, it must be emphasized that the organisation of communal life at a university hostel is regulated by the regional centre after consultation with the council of each hostel, the latter being jointly composed of representatives of the authorities and the resident students elected by student vote.

(b) University hostels

It is not possible to evaluate the total operational budgets for university hostels from the figures at present available. However, the budgets voted show the Ministry's subsidy.

In 1969 the subsidy amounted to Frs. 18 per room per month for each month of actual occupation.

Students entitled to a room in a hostel pay a rent which in 1969 amounted to Frs. 90. It was set at Frs. 105 for 1970. The number of beds available to students has substantially increased in the last eight years: the index rose from 100 in 1962 to 564 in 1969. However, the target adopted for the last two equipment plans was to provide rooms for 20 per cent of students. This percentage has not yet been achieved but the deficit has partly been made good. As in the case of the university canteens, the figures quoted relate only to university hostels administered by the university welfare service. It therefore excludes the Cité Internationale Universitaire de Paris (Boulevard Jourdan) which has about 8,000 beds and is self-governing.

(c) The Fonds de solidarité universitaire

The purpose of this fund is to provide financial assistance in cases of hardship. The students concerned are solely those eligible for the benefits of the welfare service and the allowances (generally available to the welfare service from a number of outside bodies) have nothing whatsoever to do with the allowances for higher education.

(d) Upkeep and equipment

Appropriations for upkeep and equipment in connection with the welfare services are used for the upkeep of recent buildings and the modernisation of furniture.

(e) Miscellaneous

This term covers the appropriations shown in Table L for a number of mainly cultural, medical and social activities. Up to 1965 allocations for the university travel office and up to 1966 for welfare schemes for the overseas students were included. These items are no longer on the budget and this explains why appropriations were smaller after 1966.

(f) Appropriations for equipment for the university welfare service

These appropriations are used for building the institutions run by the welfare service. A substantial effort was made from 1965 to 1968, particularly in 1967 when appropriations of Frs. 180 million were utilised. These sums are clearly reflected in the figures in Table M. Since 1968 the rate of investment has appreciably declined.

(g) Investment subsidies

They are much smaller. They concern medical, social and cultural equipment and the organisation of rest centres or treatment centres reserved for students, which are themselves grouped in a foundation. Since 1967, appropriations have been in the neighbourhood of Frs. 20 million.

⁂

An overall examination of the trend in the appropriations for operating expenses or equipment for the oeuvres universitaires leads to some rather pessimistic conclusions. After the rapid increase between 1962 and 1967 there was a substantial cut in these appropriations both absolutely and as a percentage of the Ministry of Education budget. In 1962 they stood at roughly 0.9 per cent, rose to 1.6 per cent in 1967 and they seem likely to fall back to 0.81 per cent in 1970. The appropriations for operating expenses in this total show a constant increase, which is bound up with the increase in the number of students (and the services they require) and prices. On the other hand, appropriations for equipment have fallen from Frs. 180M. to Frs. 45 million in the last four years, although the targets have not been achieved.

The trend in appropriations expressed as an index shows an increase of 100 to 256 from 1962 to 1970. This is a slower trend than that of the Ministry of Education budget (100 to 286 for the same period). If the annual total is multiplied by a conversion factor in 1968 francs, the index variation is 100 to 219. The 1970 appropriations, which are particularly limited as compared with those for previous years, are the cause of this decline in the index which rose to 356 in 1967 (313.5 in constant francs).

It should also be noted that not all students eligible avail themselves regularly, or at all, of the benefits of the university welfare service. This is particularly the case with regard to students who live and take their meals with their families. For example, in 1968-69, out of a total of 676,722 students eligible only 474,684 or 70.1 per cent applied for the card of admission to the institutions run by the welfare service. Among them, 7.6 per cent were foreign students (1.4 per cent African and 6.2 per cent from other countries). The number of students accommodated amounted to 75,877 of whom 2,258 were African and 5,674 were from other countries.

2. Contribution by the state to the social security system for students

This is another aspect of indirect aid to students. The latter are, of course, eligible for the same social benefits as workers and their families. But their contributions are much lower than those of the other beneficiaries with incomes, and the education budget therefore includes an annual state contribution to the social security organisations. This sum is intended to make up for the deficit in students' contributions and is proportionate to the number of students concerned.

The funds provided by the state under this heading are shown in Table N which covers the main items of aid granted to students in higher education.

Conclusion

Aid to students in higher education is less significant as a trend than as a proportion of the Ministry of Education budget. It is clear that aid has expanded more rapidly than the budget as a whole. In 1963 it accounted for 3.97 per cent of the Ministry of Education budget; in 1969 it had risen to 4.42 per cent and even in 1967 it amounted to 4.58 per cent. The figures at present available for 1970 indicate that there may be a further proportionate decline in aid as a percentage of the general budget.

⁂

TABLE N

AID TO STUDENTS IN HIGHER EDUCATION

(in francs)

	1963	1964	1965	1966	1967	1968	1969
1. Allowances(1)	119,563,200	168,244,200	203,528,820	235,918,654	269,683,645	312,494,000	398,723,000
2. Pre-salaries							
- Ecoles normales primaires	72,674,250	89,496,680	97,646,640	97,646,640	96,224,310	85,990,850	158,881,668
- Ecoles normales supérieures	18,958,040	21,380,171	24,667,446	25,026,553	26,028,515	27,785,820	31,715,629
- IPES's	64,889,200	88,905,309	109,146,052	116,299,652	122,815,800	121,925,232	134,349,075
- ENNA's	6,289,975	7,117,600	8,878,974	10,071,672	9,456,984	17,123,378	21,104,592
3. Oeuvres universitaires (university welfare service)	129,841,620	143,763,620	197,373,620	269,978,620	296,978,620	256,438,620	245,726,370
4. State contribution to the social security system	18,116,000	20,116,000	24,122,000	25,556,521	27,256,521	28,886,521	30,620,521
Total	430,332,285	539,023,580	665,363,552	780,293,307	848,444,395	850,644,421	1,021,120,855
Proportion in the Ministry of Education Budget	3.97%	3.93%	4.24%	4.47%	4.58%	4.15%	4.42%
Trend in current francs expressed as an index	100	125.2	154.6	181.3	197.1	197.6	237
Trend in constant 1968 francs expressed as an index	100	123	147.7	168.3	181.2	176.4(2)	211.8(2)

Notes: 1) University year.

2) Assumed to be unchanged in the absence of information.

Annex IV

THE EDUCATION GRANT

The education grant is not new (it dates back to 1951) but it did not appear in the budget of the Ministry of Education until 1966. From 1951 to 1966 it was entered in a special Treasury account. In view of the special and important nature of these arrangements, we found it preferable to isolate it from the last three budgets of the Ministry of Education in which it appears in order to make a separate study of how it has developed since its creation.

There would be no point in dwelling here on the doctrinal significance of the Barangé Act which is the basis of this grant (Act of 28th September, 1951): let it suffice to say that it inaugurates a system whereby the state participates in the operating expenses of private primary schools. Until that date, the Conseil d'Etat had constantly refused the state and local authorities the right to assist these establishments. The Act of 28th September, 1951, introduced the principle of state aid and laid down that the period of application would be determined provisionally and that it would be replaced by legislation that would define an overall system for education. This text was the Debré Act of 31st December, 1959, in turn amended by the Finance Act of 23rd December, 1964.

However, in addition to the assistance granted to private schools, and with a view to striking a balance between the sums allocated to both state and private schools, the Barangé Act provided an improvement in physical conditions for state schools.

The aim of the Barangé Act was the allocation of a grant to any French or non-French child, aged between 6 and 14, who was receiving primary education and had regularly attended classes during the term. This grant, originally Frs. 10 per pupil per term of school attendance, was raised to Frs. 13 in 1953. Since that date, the unit figure has not changed.

- For private schools, the grant was paid to the Parents' Association created at the time, and priority was given, under the supervision of the Préfet, to the payment of teachers' remuneration. Nevertheless, the only schools able to benefit from the Barangé Act were those that were operating on a regular basis when the Act was promulgated. By this was meant that the opening of the school had been declared to the authorities of the academic region and that neither the authorities nor the Préfet had opposed the opening of such a school or of primary classes.

- For state schools, the grant was paid to the educational fund of the département, administered by the Conseil Général, and had to be used to finance the improvement of the "educational service". A rough order of priority was laid down for this expenditure. First came the purchase of pooled teaching apparatus; secondly, equipment and adaptation of premises, and the cost of providing healthier and more comfortable conditions for the pupils; and thirdly, repair and maintenace of school buildings. A fraction of no more than 10 per cent of the grant could be given to educational organisations.

All the amendments made to the Barangé Act helped to broaden its scope of application.

As regards the state schools, the communes and départements were authorised from 1953 to use the grant primarily to pay for their share in the construction of state school buildings and the repair of existing establishments. Next, part of these receipts was allocated to milk and sugar supplies to children in state and private schools between six and eleven years of age (six and ten years of age as from 1957).

In 1955, the basis for allocating the grant was changed: henceforth children under six and over fourteen receiving primary education were entitled to the benefit of the grant.

The Barangé Act was a provisional instrument: it was replaced by the Debré Act which defined the overall system for private education. The relationship between state and private education was henceforth established on a new basis. The state offers to schools an amount of aid which corresponds to the type of relationship which will be established with the state. They have four alternatives. They may:

- ask to be integrated in the state education system;
- sign an association agreement (which assimilates certain classes in private education to the corresponding classes in state schools: the teaching is provided by state-employed teachers or teachers paid by the state on a contractual or auxiliary basis);
- sign a simple contract (some teachers are officially recognised and paid by the state):
- not sign any contract.

The basis of allocation of the grant has not been changed. On the other hand:

- in the case of integration or an association agreement, the grant is paid to the fund of the département;
- in the case of a simple contract, depending on the part played by the communes in financing, the grant is paid to the fund of the département or to the parents' association;
- in the absence of any contract, there is no change in the provisions of the Barangé Act;
- as regards state education, the grant is henceforth extended to major repairs and maintenance costs paid by the communes, and also the communes' share in the cost of transporting pupils.

As the Debré Act was also of a provisional nature as regards the education grant, a new system was set up under the Act of 23rd December, 1964.

The procedure for allotting the grant remains identical: each pupil is entitled to a grant of Frs.13 per term of school attendance, but the field of application has been enlarged as it now applies not only to schools which provide primary and pre-primary schooling but also those that provide first cycle education (secondary education); it thus applies to the whole of the first cycle, from 6ème to 3ème inclusive, i.e. about 900,000 more pupils.

As from 1965, the "special Treasury account" was abolished. A new heading was included in the budget of the Ministry of Education (heading 43-36) and a further heading (heading 46-31) was added for the payment of milk and sugar supplies.

The procedure for allocating the grant and the grant itself were also amended, according to the nature of the educational establishment.

As regards the procedure, the sums were paid into three "accounts of third parties" opened within the accounts system of the département and entitled:

- educational fund for state educational establishments;
- educational fund for establishments or classes bound by contract;
- payments to private establishments or classes without a contract.

As regards the allocation of the grant, a distinction should be made between the provisions governing state establishments and those concerning private establishments.

For state schools, funds may be devoted primarily to the following items:

- construction of schools for the communes or départements;
- repair of existing school buildings;
- acquisition and renewal of pooled educational apparatus and of furniture;
- payment of the cost of operating the school transport services;
- purchase of books and supplies.

For private establishments and classes bound by contract, priority is given to:

- the payment of social contributions attributable to the salaries of teachers bound by contract (which applies only to teachers under the simple contract system; as in the case of establishments bound by an association agreement, the state pays the fiscal and social contributions relating to the pay of contractual and auxiliary teachers) which are payable by the establishment;

next come:

- the maintenance and repair of school buildings;
- the acquisition and renewal of pooled educational apparatus and of furniture;
- the financing of school transport services and the purchase of school books and supplies.

Private establishments or classes without a contract no longer have an absolute right to receive the grant, and in order to obtain it they have to make a special request and provide full details of the establishment, teachers, pupils and the educational performance of the school in previous years. Furthermore, no approval granted is permanent.

Nevertheless, in our view it is important to emphasize the various uses to which the education grant can be put, as it reveals that certain expenses which were totally neglected in the budget of the Ministry of Education may now be covered by this education grant: this applies in particular to repair and maintenance costs. Another factor to be considered is that the share of département and local authorities in capital investment and in the cost of transporting pupils, etc., which had already been reduced by subsidies and by transfers of the various charges to the state, has further dwindled owing to the fact that the education grant can be used to meet these various expenses.

Annex V

EDUCATIONAL ORGANISATION OF THE NURSERY SCHOOLS

A. Curricular and educational organisation

The curricula and instructions issued in 1921 and 1927 provide general guidelines based on child psychology but at the same time leave the teachers considerable freedom of action. Teachers, headmistresses, inspectors and the Ministry of Education authorities have pooled their experience and, guided by the work of Montessori and Decroly, have sought out the best procedures and methods with a view to developing a suitable system while allowing teachers a fairly free rein. There are no fixed hours, although the general pattern is a six-hour day, divided into three-hour sessions.

1. The psychological basis of the teaching methods

Recent psychological research has provided the basis for the teaching methods used in nursery schools. A healthy two- to six-year-old is naturally active and curious with a general and intuitive perception of his surroundings. His universe is personal and centred at first on his own experiences but the nursery school helps him to go beyond this self-centred world and to develop a sense of sociability and a desire to share with others as he gets older. The aim at this stage is to awaken and direct his natural curiosity, to develop his imagination and possibilities of self-expression with activities based on games. Games and manual activities play a fundamental role in the child's education since they are the key to his understanding of the external world. At first these activities are self-centred but subsequently evolve towards communal or team activities. The importance of these sensory-motor activities in the intuitive acquisition of the rudimentary techniques of understanding can hardly be over-stressed.

2. Different aspects of pre-primary education in France

Nursery school education provides a comprehensive training covering many different aspects.

(a) Physical education

This concentrates initially on rhythmic movements (singing, miming, dancing, games, etc.) with a view to developing accuracy, swiftness and agility. Progress is encouraged in the youngest children mainly by urging them to better their own performance rather than to compete with others, since the competitive spirit develops much later. There are also various other games (sandpits) and exercises with accessories and other equipment.

(b) Sensory education (sight, hearing and touch)

In developing a sense of observation, stress is laid on the relativity of sensory experiences (hot, cold, tepid, etc.).

(c) Manual education

This must motivate and reinforce the child's natural activity by means of a wide variety of sensory-motor exercises (classification, for example) involving reflection, imagination and judgement.

(d) Social education and moral training

From the first year, the child is gradually - but without constraint - accustomed to become less egocentric and to participate in a group. Later training is aimed at inculcating certain basic ethical notions: respect for life, justice, truth, etc.

(e) Aesthetics

This training concentrates mainly on music and drawing which account for a large proportion of the time allocated to the various activities.

Music is very important and - although timetables are not fixed - takes up some five hours per week. It includes rythmic exercises, dancing, singing accompanied by an instrument, musical recitals, singing in unison and, for the five-year-olds, singing in parts. Drawing on the other hand is designed to develop both an aesthetic sense and sensitivity, and to give rein to self-expression. This includes free-hand drawing with crayons, copying, silhouettes, line drawings, etc. Finally, the very lively imagination of the children is stimulated by storytelling.

(f) Intellectual training

The nursery school plays a purely preparatory role in this field. The main emphasis is on mastering the language essential to the development of self-expression. The memory is trained by simple techniques of recitation. The rudimentary techniques of understanding are tackled only after the child has turned five years old, when he begins with writing and acquires a written vocabulary. If the order is reversed, learning to read will be much harder later on. Finally, an intuitive approach is made to arithmetic, using different groups of similar objects to enable a child to discover empirically the notions of "units" and "equality" ("as many as"). Thus, intellectual training in the nursery school is essentially concrete, based on the natural activity and curiosity of the child and his relationship with the surrounding world, and excluding all abstract or systematic notions. If this essential stage of intuitive, global and concrete apprehension of basic intellectual mechanisms is neglected in the child, his future education is likely to be jeopardised.

3. Progressive nature of the training

Considerable importance is attached to the progressive nature of the training given in nursery schools. During the four years' nursery schooling the child's psychological development is appreciable, although the rate of progress varies. Nursery school pupils are divided into three sections on the basis of age, but teaching within each section must be as closely adapted to the individual as possible.

(a) Junior section: two to four years old. At this age a child is still absorbed in the relationships between himself and the surrounding world and takes little interest in the activities of others. There are many sensory-motor activities (water, sand, filling-up, building, household activities, the use of bolts, screws and nuts, etc.), and the children try to imitate the actions of others. Accuracy of gesture, dexterity and a sense of balance are sought in manual activities. Aesthetic training takes the form mainly of listening to stories, singing and music. Intellectually, the children discover notions of order and practise classification exercises. Finally, mastery of the language, essential to expression, is basic to this training.

(b) Intermediate section: four to five years old. At this age, imitation becomes more systematic and varied, and creative activities are introduced which provide the opportunity to exercise memory and power of concentration. The child's aesthetic sense grows richer, and more elaborate activities are proposed: rhythmic dances, drawing and poems. On the intellectual level, attention is still focused on language.

(c) Senior section: five to six years old. Here the child is beginning to be aware of those around him. The training is concentrated on accustoming him to strange surroundings, developing his aesthetic sense and getting him to control his impulses. The first principles of right behaviour are then introduced. Aesthetic activities are more varied: modelling, drawing, dancing, singing, music and poetry. Manual activities are organised around specific subjects and motivated by direct contact with reality. They help to sharpen observation and develop the ability to concentrate. Finally, the basic techniques of understanding, beginning with the acquisition of a written vocabulary, are introduced in this fourth year. It has in fact now been established that learning to write and to express oneself in writing comes before the ability to read.

B. The conditions for development: experiments and research

The considerable degree of autonomy enjoyed by the nursery school in France affords it wide possibilities for development. Such development, backed up by many experiments, has been continuous. Current research is being conducted on the introduction of courses in a second modern language in the nursery school.

Another factor in the development of nursery schools is the close collaboration between the family (especially mothers) and teachers. This makes it possible to adapt methods which are sometimes too general or formal to the personality and problems of each child.

Annex VI

ORGANISATION OF THE FORMER CERTIFICATES (BREVETS D'ENSEIGNEMENT)

The industrial certificate (BEI)

This required four years of study. At the end of the third year, trainees took a test mainly in general educational subjects, while the final examination at the end of the fourth year laid more emphasis on technical subjects. Periods of practical training in industry were compulsory.

However, there was also an academic section to which the more gifted were admitted after the 3e and which could lead on to an M or M' course, then to an economics baccalauréat or a mathematics and technical baccalauréat and finally, after that, to the National Schools of Engineering, Arts and Crafts (ENIAM).

The commercial certificate (BEC)

The common stream of the 4e and 3e was followed by a choice of two options in the 2e and 1e:

- a commercial course, taken by the majority of pupils;
- a social welfare course created more recently.

In "2e commerciale" three courses were available:

- bookkeeping, subdivided at 1e level into courses for bookkeepers and office clerks;
- shorthand-typing, offering a choice of three sections: commercial secretary, office clerk and social welfare secretary;
- sales employee.

Examinations were in two stages as for the BEI. There were also courses to enable students from the modern sections to catch up: a two-year "A" course for students at 3e economics level and a one-year course to which students were admitted by competitive examination at BEPC level.

The social welfare certificate (BES)

This began with the second form.

The first year was divided into three sections:

A normal section following on the 3e and two special sections A and B. Two options were available: medico-social secretary and economic and social secretary in the last year.

As for the BEI, there were academic commercial sections preparing students for the higher commercial certificate or the economics baccalauréat.

The hotel and catering certificate (BEH)

Training was provided in eight hotel and catering schools and enrolment was based on the same criteria as for the technical schools. The course also lasted four years, but the first year was at 3e level and the last year at terminal form level. After the common 3e course, there were two options:

- an administrative course (bookkeeping, business legislation);
- a technical course including a great deal of practical kitchen and catering work.

Holders of the BEC, the BEPC and Part 1 of the baccalauréat could be admitted directly to the first form. The first part of the examination was taken at the end of the 1e, and the second part in the following year after a six-month training period in a hotel abroad.

From the 4e on, the amount of time spent on technical training for the trade certificates increased substantially. Below are two typical timetables showing the distribution of studies.

	3e class	1e class
Industrial sections (BEI)		
General education	18	5
Occupational training	21	29
Physical education	4	4
	43	38
Commercial sections (BEC)		
General education	15	10
Occupational training	16	23
Physical education	4	4
	35	37

Annex VII

ORGANISATION OF HIGHER HUMANITIES AND SCIENCE STUDIES BEFORE 1966

1. Higher scientific studies

These were open to all holders of the baccalauréat in philosophy, experimental sciences, elementary mathematics, mathematics and technology and economics, who could enrol in whichever section they chose.

(a) Propédeutiques

These intermediate one-year courses, preparatory to the science degree, were created in 1947. Certificates were awarded at the end of the course in the following subjects:

MGP : General mathematics and physics (the most abstract);

MPC : mathematics, physics, chemistry;

SPCN : physics, chemistry and natural sciences;

PCB : physics, chemistry, biology for students wishing to take up medicine.

No student could sit the examination more than four times. This preparatory year leading up to the degree was a period of transition and adjustment to higher education.

(b) Degrees (Licences)

Degrees were awarded to students who had obtained five certificates in addition to the propédeutique. Two types of degrees could be prepared:

- teaching degrees; in this case, the certificates could not be chosen freely but could be prepared and taken in any order. They could be taken in the following subjects:

- mathematics
- applied mathematical sciences
- physical sciences comprising three options:
- chemistry
- electrical engineering, electronics
- metallurgy
- natural sciences with two options:
- biological sciences
- earth sciences
- chemistry/physiology;

- the second type of degree (Licence libre) also comprised five or more certificates of higher studies (CES), the subjects being chosen freely by the candidate and offered in order of preference. For each CES there was a strictly defined syllabus.

Diploma of higher studies (DES)

Following the first degree was a course designed to consolidate and develop knowledge acquired. The diploma awarded at the end of the course (DES) was essential to all those wishing to prepare for the agrégation. There were three categories of DES: mathematics, physical sciences and natural sciences.

(c) Doctorates

There were four types of doctorates:

(i) State doctorate (Doctorat d'Etat). This was the highest university degree. The course lasted several years and two theses had to be prepared and defended. The doctorates were divided into seven groups according to the combination of subjects previously offered for the licence degree, which in this case had to comprise seven subject certificates.

(ii) Third-cycle doctorate. This was both an initiation into research and a specialisation, and a course particularly favoured by those intending to take up work in the private sector. It was open to holders of the licence who had spent two years doing research and had submitted and upheld a thesis.

(iii) The doctor of engineering degree (Diplôme d'ingénieur-docteur), created in 1923. The course was open to baccalauréat holders with an engineering diploma and three CES: it lasted two years, during which time two theses on the applications of science had to be submitted and defended.

(iv) The university doctorate; a short specialised course open to holder of the licence who were required to submit and defend a thesis ("mémoire").

2. Higher studies in humanities

These were organised on much the same lines as the scientific studies and were open to all baccalauréat holders.

(a) Propédeutiques

Established in 1948 with the same aims as in the science section, this was a one-year course leading to a certificate of general literary studies (CELG). Here again, students could not take the examination more than four times.

There was a choice of two sections:

- classical section, comprising a paper in French (literature, history or philosophy), a translation from Latin or Greek and a translation from Greek or a modern language;

- modern section, comprising a paper in French as for the previous section, a composition in a first modern language and a translation from a second modern language.

(b) Degrees (Licences)

The licence was awarded to holders of four CES who were also required to pass an oral test in a modern language. There was the same distinction as on the science side between the teaching licences and the licences libres.

- The compulsory subjects for the teaching licences were: philosophy, classics, history and geography, modern languages and literature.

- The Licence libre comprised four CES in subjects freely chosen by the candidate.

- Lastly, there were four other degrees composed of compulsory CES subjects: psychology, studies of overseas countries and populations (carrying certificates required for the law degree), sociology, and history and archaeology. In addition to the CELG, only three CES were required for these degrees.

Diploma of higher studies (DES)

These diplomas had the same features as those on the science side and could be taken in the following disciplines: philosophy, classics, modern languages and literature, history, geography, modern literature, arts and archaeology.

(c) Doctorates

Here again, as on the science side, there were three types of doctorates: state doctorates, third-cycle doctorates and university doctorates.

(i) State doctorate. Open to all holders of licences, the course presented the same features as its counterpart in science; two theses had to be defended but the time taken to prepare them was generally longer and might easily extend to ten years.

(ii) Third-cycle doctorates. The courses were organised at the Ecole Pratique des Hautes Etudes, the Ecole des Chartes, the Collège de France and the CNRS. Holders of licences might enrol at one of these establishments and prepare a thesis over a period of two years(1).

(iii) The university doctorate: the same as on the science side.

3. Studies in law and economics

In this case the old system dates from 1956; the successive reforms introduced prior to 1966 are described under Section IV D of Chapter II, Title 2, Part One, Book II.

Where law was concerned there was no propédeutique but a two-year general course combining the following subjects: private law, public law, civil procedure, penal law and penal procedure, administrative law and political economics. On successful completion of this course students were awarded a bachelor of law degree and went on to take a further one-year degree course in public law, private law or political economy. In 1959, the duration of the law degree course was extended to four years. The big difference between studies in the faculties of humanities and science and law studies is that the latter are organised as a series of annual examinations and not as certificate courses.

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1) In humanities, as in science, the third-cycle doctorate could be the first step towards the state doctorate. The third-cycle thesis could be accepted as counting towards the state doctorate.

The DES was in fact the first part of the state doctorate. It was a one-year course of further study and specialisation with a view to the submission of a thesis. Some of the DES tests could be replaced by a thesis. There were four DES options: public law, private law, politics and economics. Except in the case of prospective economists, two DES were required for the doctorate. Thus, the law doctorate course lasted two to three years or more, depending on how long it took to prepare the thesis.

Annex VIII

DESCRIPTION OF MEDICAL STUDIES (MEDICINE, PHARMACY, DENTISTRY) BEFORE THE 1958 REFORM

(a) Medicine

Before the hospital training reform of 1958 medical studies could be pursued along two parallel lines: at the faculty and in hospital.

(i) The faculty of medicine provided a seven-year course. After the baccalauréat there was a year of preparatory study at the faculty of science (for the PCB, i.e. Certificat d'études physiques, chimiques et biologiques) after which successful students enrolled at the faculty of medicine(1). For five years they attended lectures in the fundamental sciences (anatomy, physiology, histology, chemistry, physics, microbiology, parasitology, etc.) and did practical work in the faculty laboratories. Each year's work ended with an annual examination which enabled successful students to enrol for the following year's course. The sixth year of study (in practice the seventh year) was devoted to a practical course in hospital. A monograph was then submitted and defended before a faculty board which awarded the diploma of Doctorat d'état en médecine entitling the successful candidate to become a general practitioner. If they so desired doctors could then work for specialised Certificats d'études supérieures in a wide range of subjects in order to acquire special competence in one or other branch of medicine. Finally, they could prepare a competitive agrégation examination which consisted of written papers and enabled them to join the academic staff of faculties of medicine under a procedure and a grading system similar to that adopted in faculties of law and economics (Professeurs agrégés, senior lecturers, supervisors and assistants).

(ii) Parallel to this university course, oriented towards teaching and research on the model of other higher education courses, was a system of hospital training marked by successive competitive examinations. Immediately at the end of their first year of medicine students could enter for the "externat" competition. They then worked for two years on a half-time basis in the various departments of a hospital. In their fourth year of medicine they prepared themselves for the competitive "internat" examination which they were allowed to sit several times. Successful candidates then spent four years in hospital as interns spending one year in each of the main departments (general medicine, surgery, paediatrics, obstetrics, etc.). If they wished to continue their hospital career, they could then enter for a number of other competitive examinations, i.e. the "clinicat" (Chef de clinique) and the "médicat". They were then appointed to regional hospitals as senior consultants (Médecins des hôpitaux). As their hospital duties were on a part-time basis, Chefs de clinique and Médecins des hôpitaux could also practise outside the hospital.

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1) There were 13 faculties of medicine and mixed faculties of medicine and pharmacy, and 12 national schools of medicine attached to parent universities. For reasons of prestige there was a considerable concentration of students in Paris, where the teacher/student ratio was consequently lower than in the provinces, i.e. one teacher to 33 students, instead of one teacher to 14.

Under this dual system most medical students had a faculty training and no hospital experience while an élite had hospital experience but less basic theoretical training. For the very few it was possible to combine a hospital with a university career as certain Médecins des hôpitaux were also incumbents of university chairs (Professeurs agrégés).

(b) Pharmacy

The pharmacy course consisted of several stages: studies leading to a diploma in pharmacy (professional qualification) and research leading to a doctorate in pharmacy (Doctorat d'état en pharmacie).

(i) The diploma in pharmacy, governed by the Decree of 4th May, 1937, was awarded after five years' study, i.e. one year's practical training followed by four years at the faculty. Only holders of the baccalauréat could enrol. The practical period had to be worked in an approved dispensary run by a pharmacist with at least two years' experience. Students were required to maintain a diary of the course in which they noted the dispensing operations they performed under the direction of their supervisor, recording their own comments on these operations. The diary was inspected from time to time by a visiting pharmacist. At the end of the practical course students took a qualifying examination held by a board of three members at a faculty of pharmacy, a mixed faculty of medicine and pharmacy or a school of pharmacy at which they were required to make up two medicaments, submit the diary of their practical course and identify medicinal herbs and chemical and galenic remedies. After this, successful students went on to do a four-year course of theory (divided into 16 terms) at faculties of pharmacy, mixed faculties or schools of pharmacy, consisting of lectures and practical work. At the end of each year students were required to sit for an examination. The examinations at the end of the first and second years included written papers, practical tests and oral, while those at the end of the third year were confined to practicals and orals. Students had to pass in all examinations. Candidates who failed the same examination four times were disqualified from continuing their course. Finally, during their fourth year students sat for three examinations, the third being taken during the 16th term at the faculty of pharmacy or the mixed faculty to which the school of pharmacy was attached. Successful candidates were awarded the diploma in pharmacy.

(ii) The Decree of 11th August, 1939, instituted a degree of Doctorat d'état en pharmacie in the faculties of medicine and the mixed faculties. Candidates for this degree were required to have two Certificats d'études supérieures (CES) and to submit a thesis.

Candidates for the CES examinations had to have the diploma in pharmacy or have begun their 16th term in the fourth year of their pharmacy course (they could therefore switch to research before the end of the pharmacy course). There were three groups of CES examinations:

- physics and chemistry;
- biology and pharmacy;
- natural science.

There were written, practical and oral tests for each certificate, success at one examination qualifying candidates to take the succeeding examination.

Permission to enter for the degree of Doctorat d'état in pharmacy was granted to holders of the diploma in pharmacy who also held a teaching degree in physics or natural science, or the groups of CES awarded by science faculties in preparation for the doctorate in physics or natural science, or two CES awarded by faculties of pharmacy and mixed faculties chosen from two different groups. After a year of specialized research in a faculty laboratory, candidates were required to submit and uphold a thesis before a board of three examiners. In addition, they could take certain specialised diplomas:

- certificate in acoustics as applied to hearing aids (Decree of 21st November, 1957);
- certificate in optics as applied to ametropia (Decree of 3rd August, 1959);
- national diploma in oenology (Decree of 13th November, 1956);
- diploma of the Institute of Industrial Pharmacy of Montpellier (Decree of 24th January, 1956) which offered a one-year training course for management staff and technical supervisors including a two-month practical period in a pharmaceutical laboratory.

(c) Dentistry

The dentistry course was organised under a Decree of 24th May, 1949, which instituted a degree in dental surgery. The course, which lasted five years, could be taken either in the stomatology departments of medical faculties or in approved government, private, municipal or independent establishments. An examination was held at the end of each year. The first year course included a number of special subjects and led to the PCB certificate preparatory to medical studies. To register for the first year, candidates had to have passed the baccalauréat. The following four-year course included basic and special subjects accompanied by practical training periods in the departments of medicine, surgery and stomatology in general hospitals, university hospitals or approved teaching establishments. The examinations consisted of practical tests and orals in all the subjects taught.

Although all these different careers are inter-related, the studies leading up to them were organised on parallel, independent lines. One of the main objectives of the 1958 reform was to reorganise them in the light of their basic interdependence.

It will be seen from the above description that there were a number of inadequacies in the system prior to the reform which needed to be remedied.

Annex IX

ADDITIONAL INFORMATION ON THE REFORM OF MEDICAL STUDIES

ADMINISTRATIVE PROBLEMS AND FUNCTIONING OF RESEARCH STRUCTURES

1. The Centres Hospitaliers Universitaires (CHU)

The novel features of the new CHU are their location, their equipment and the administrative principles on which they are run.

(a) Location and equipment of the CHU

The Order of 30th December, 1958, stipulated that a CHU was to be set up in all towns having a faculty of medicine, a joint faculty of medicine and pharmacy, or a school of medicine. There are now 23 such centres. The CHU groups together in the same location (or in locations sufficiently close to each other) a faculty with its own teaching and research facilities, a hospital with all the necessary general and specialised clinical services, research and analysis laboratories, schools of pharmacy and their laboratory facilities, dental services etc. It is generally agreed that the optimum size for a complex of this kind should be:

hospital beds: 1,000 to 1,250
students: 650 to 900
area: 80,000 to 100,000 m^2

In the larger towns there is obviously room for two or more CHU of this type.

In addition to the new standards for university facilities mentioned earlier, standards for hospital facilities have been laid down in other enactments. An Order dated 11th December, 1958, specifies the conditions for the rational location of regional municipal hospital centres, which in future will offer outlets to non-resident doctors. Similarly, a Decree dated 6th July, 1960, lays down new guidelines for the organisation of rural hospitals, where patients will henceforth be able to receive treatment from their own medical practitioner. In short, alongside the CHU, where the hospital function is closely linked with teaching and research, a whole new order of hospital facilities has been established to meet the needs of the population, but one which has the advantage of being geared to the new range of outlets offered to doctors as a result of the reform of medical studies.

(b) How the CHU operate

The aim of the CHU is twofold: to provide better instruction for doctors during their initial training period and facilities for post-university refresher courses.

The basic objective of the reform of medical studies is to ensure that all students have a thorough clinical training in the hospital environment, and this means that the CHU have to meet a number of conditions as regards administrative organisation and teaching staff status.

For the CHU to function properly certain administrative problems had to be solved. These stemmed from the fact that the end-purpose of medical studies was to provide both professional training in the strict sense and an advanced medical education. But whereas the hospital system comes under the Ministry for Social Affairs, the faculty is subject to the control of the Ministry of Education, and the legal implications are not the same in both cases. A reorganisation of administrative structures seemed extremely difficult to effect in the immediate term. It was decided to retain the same capacity and legal personality for hospital and faculty although they were now merged in the CHU and required to function jointly. The principles of this system of joint organisation were laid down in a Decree dated 24th April, 1963, under which the two establishments are bound by contract to work out together the best arrangements for jointly ensuring that the hospital/university function is properly discharged. This procedure, which is mandatory in form but liberal in content, should make it possible to allow for the wide diversity of actual situations which are not uniformly satisfactory.

The second point that had to be dealt with was the status of the CHU teaching staff as defined in the Decrees of 11th December, 1958 and 24th August, 1961 which introduces the principle of full-time hospital service and the new "dual function" system under which teaching and practice were intermingled, each teacher, whether clinician or fundamental researcher, serving as a full-time member of the hospital staff and, except in very special circumstances, giving up his private panel of patients. This dual function system made it necessary to establish a joint recruitment procedure at national level in the form of a single competitive examination coming sufficiently early in the cycle of studies for it to be possible to pick out fairly quickly the young doctors likely to go into teaching and research.

The trend is therefore towards close co-operation between two structures that formerly were parallel. It was given material form in 1965, when a joint board representing the Education and Social Affairs Ministries was set up to organise the new hospital/university examinations and ensure inter-ministerial co-operation in implementing the reform.

The CHU, which is the keystone of the medical studies reform, will also be the preferred place for post-university instruction where, thanks to the research facilities and seminars, city practitioners will be able to bring their knowledge up to date.

Thus, the CHU not only provides the essential framework for a significant reform of medical studies proper but eliminates the shortcomings of the previous system which gave so much cause for concern.

2. Organisation of research

(a) Integration of researchers into the CHU

This is essential since, given the complexity of the problems research has to solve and the need for researchers and clinicians to co-ordinate their action, it is clearly important to have a solid substructure of clinical research in the hospitals - which was hardly the case in France before the advent of the CHU. The introduction of the CHU has made it possible to set up many laboratories integrated with the system and to regroup the laboratories of clinical services into central laboratories for fundamental research. In order to weld these activities into a whole, the Institut National pour la Santé et la Recherche Médicale (INSERM, formerly the National Institute of Hygiene) was set up in July 1964 to administer all the laboratories attached to hospital services. Thus, while a distinction is made between the professional role of the medical faculties and their role in post-graduate education because of the specific training now given to young researchers, biological and medical research are nevertheless combined in the CHU where clinicians and researchers in both the fundamental and applied fields now work together. A national system of internship has even been introduced for studies in human biology, so that students preparing the doctorate in human biology may obtain the degree of lecturer and agrégé in the same way as doctors and surgeons.

By Ministerial Order dated 21st November, 1967, a Comité de Coordination de la Recherche Médicale responsible to the Minister of State was set up to handle scientific research and space questions. Its work is to provide background material, through studies, surveys and suggestions, for the discussions of the Inter-ministerial Committee for Scientific and Technical Research on the development of medical research activities.

The Medical Research Co-ordination Committee meets for this purpose at least once every three months. It may also call on any scientist whose opinion on a given subject it wishes to have to take part in its work; such persons include the heads of the experimental pathology and pharmacodynamics sections of the CNRS and INSERM, bodies with whom it may set up working parties.

(b) Interrelationships of the various medical specialisations at research level

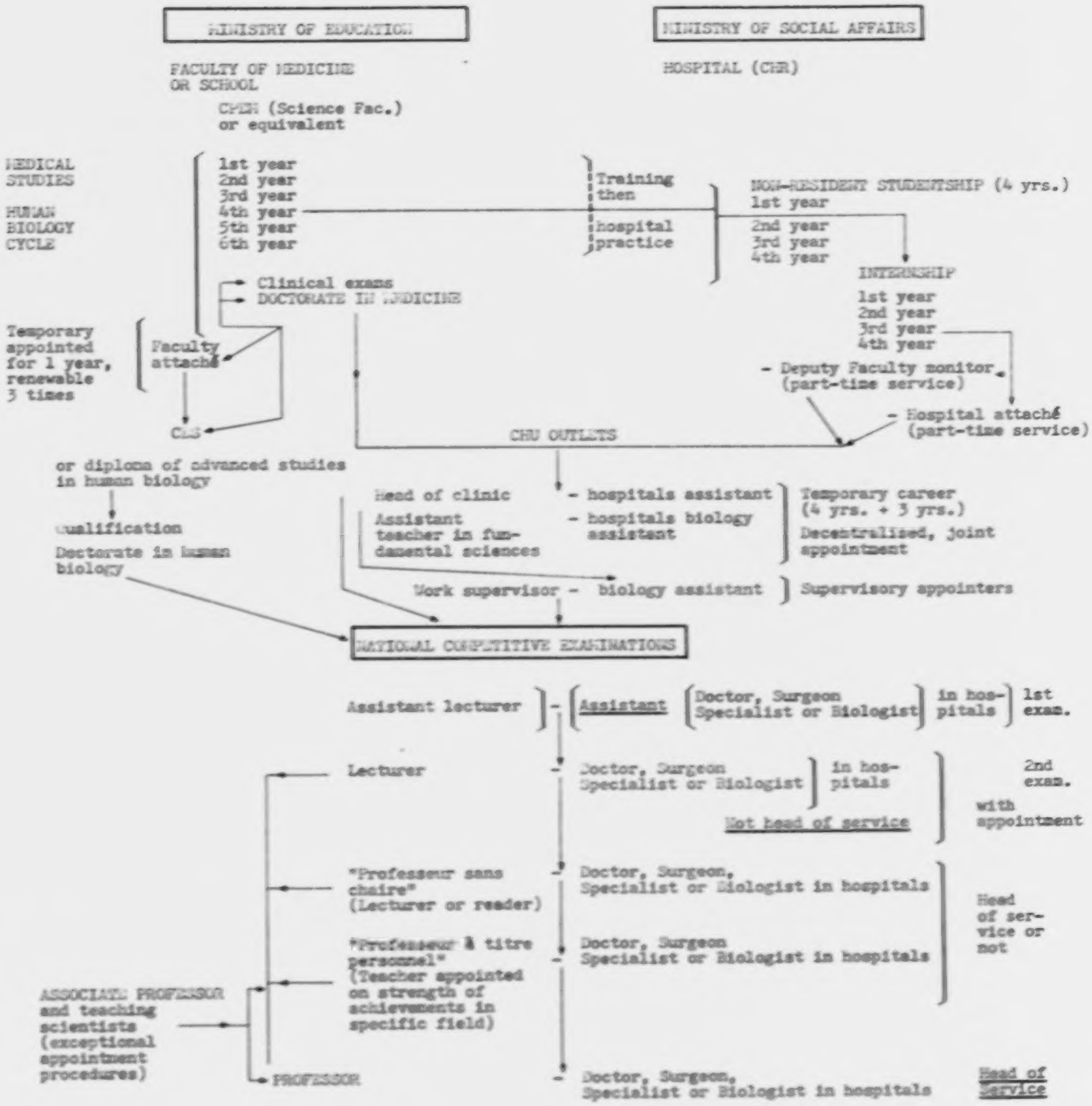
Efforts at integration have been most pronounced in the case of pharmacists.

The problems posed by pharmaceutical research are of a very specific nature. Centred on medication, the aim of this research is to find new therapeutical substances with a view to their analysis, preparation, conservation, and distribution, and to determine their curative biological properties and method of action. Pharmaceutical research is thus related to biological and medical research, but is more specifically directed towards industrial applications. It has however a necessary part to play in medical research. Pharmaceutical research (which, as already noted, is essentially an applied form of research) is fairly highly concentrated, and in fact is carried out in fewer than ten private laboratories with very considerable financial resources. But of the 500 so-called new medicines marketed every year only half a dozen or so are really new. This would appear to have something to do with the way fundamental pharmaceutical research is currently developing in the faculties. This type of research is far too dispersed and this, together with its lack of resources, makes it ill-suited to the requirements of modern research. Despite the introduction of new disciplines - a decision taken in 1964 - efforts to develop relations with the outside world have been unavailing, with the result that students become "encapsulated", as it were. One indication of this is the fact that less than 10 per cent of the work of candidates for the agrégation in pharmacy are accepted for publication.

The question therefore was whether fundamental pharmaceutical research should keep its independence or be amalgamated with medical and biological research. In the end the second of these alternatives was chosen and the following measures decided:

- introduction of a new cycle of studies in human biology for holders of the pharmacist's diploma, the verterinarian's diploma, the Licencié ès-sciences degree and the Maître ès-sciences degree;
- regrouping within the CHU of laboratories of the former faculties of pharmacy.

ORGANISATION OF STUDIES AND CAREERS IN THE CHU


MINISTRY OF EDUCATION
MINISTRY OF SOCIAL AFFAIRS
FACULTY OF MEDICINE OR SCHOOL
HOSPITAL (CHR)
CPEM (Science Fac.) or equivalent
MEDICAL STUDIES
HUMAN BIOLOGY CYCLE
1st year
2nd year
3rd year
4th year
5th year
6th year
Training then
hospital practice
NON-RESIDENT STUDENTSHIP (4 yrs.)
1st year
2nd year
3rd year
4th year
INTERNSHIP
1st year
2nd year
3rd year
4th year
Clinical exams
DOCTORATE IN MEDICINE
Temporary appointed for 1 year, renewable 3 times
Faculty attaché
- Deputy Faculty monitor (part-time service)
- Hospital attaché (part-time service)
CES
CHU OUTLETS
or diploma of advanced studies in human biology
Qualification
Doctorate in human biology
Head of clinic
- hospitals assistant
Assistant teacher in fundamental sciences
- hospitals biology assistant
Temporary career (4 yrs. + 3 yrs.)
Decentralised, joint appointment
Work supervisor - biology assistant
Supervisory appointers
NATIONAL COMPETITIVE EXAMINATIONS
Assistant lecturer
Assistant
Doctor, Surgeon Specialist or Biologist
in hospitals
1st exam.
Lecturer
Doctor, Surgeon Specialist or Biologist
in hospitals
Not head of service
2nd exam.
with appointment
"Professeur sans chaire" (Lecturer or reader)
Doctor, Surgeon, Specialist or Biologist in hospitals
"Professeur à titre personnel" (Teacher appointed on strength of achievements in specific field)
Doctor, Surgeon Specialist or Biologist in hospitals
Head of service or not
ASSOCIATE PROFESSOR and teaching scientists (exceptional appointment procedures)
PROFESSOR
Doctor, Surgeon, Specialist or Biologist in hospitals
Head of Service

Annex X

REORGANISATION OF MEDICAL STUDIES: INITIAL DECISIONS AND BROAD OUTLINES FOR FUTURE REFORMS

At the beginning of December 1969, four working parties were set up to analyse the ways and means for medical study reform, taking into consideration the Guidelines Act on Higher Education, the achievements of previous medical study reforms and the need for specialists in the various fields of medicine over the next fifteen years. The initial conclusions of the working parties are cited in public orders of 30th July, 1970. Following their content, a summary will be given of the broad lines which will guide the working parties in their search for future measures.

I. Present Decisions

A. First Cycle

Although the definitive task of the first cycle of medical studies was to be described in detail later in conjunction with the expansion of the whole of the medical profession (see II below), the organisation of this cycle was set out in an order of 30th July, 1970. A two-year duration for this cycle was established at the end of which a diploma, corresponding to those in science, humanities and law, would be awarded. An educational commission composed of teachers and students has been set up for this cycle which must be consulted on matters of instructional organisation and aptitude and knowledge assessment.

Instruction may be organised in its traditional form by "ensembles annuels" by field of study (with all students having the same courses), or by a system of credit points (with different options for the students alongside a minimum compulsory curriculum). Each academic year is composed of 40 weeks. Compulsory subjects include physics, mathematics, bio-physics, chemistry, bio-chemistry, biology, histology, embryology, physiology, anatomy, psychology, social science and economics. Optional subjects can be chosen either from the compulsory fields or from other fundamental scientific and social fields. These decisions therefore lead to an increase in autonomy in the education and research units.

Although testing must include both a terminal examination and a continuous check when technically possible for the two years of the first cycle, the results carry different weights in the two years. In the first year, continuous supervision (when applied) counts between 20 and 40 per cent in the terminal examination. For admission to the second year the student must have, on the one hand, an overall average mark of at least 10 out of 20 (calculated on the basis of all the subjects studied, or all the compulsory and optional credit points when this applies) and, on the other hand, a mark of at least 10 out of 20 in not less than two-thirds of the compulsory subjects or credit points. In the second year of the first cycle and throughout the second cycle continuous supervision, when applied, accounts for not less than 20 per cent and not more than 80 per cent in the results of the final examination. These measures introduce greater flexibility into the testing procedures within a more autonomous educational framework and, as such, promise to be more effective.

B. Second Cycle

A second order shows that the second cycle of medical studies was planned with the degree of doctor of medicine in view; this cycle lasts for four years and is divided into two parts. The first. lasting one year. consists in introducing the students to the working of hospitals. The second part comprises three years of study concentrated on pathology and therapeutics. It can be organised either on a yearly basis or by semester throughout the three-year period,or by co-ordinated certificates ("enseignement intégré"). Theoretical training is followed by clinical training during which time students are required to work in hospitals. The third cycle. which will not be set up before 1975. is being studied in detail as of autumn 1970.

II. Recommendations of the Working Parties

A. First Cycle and the Medical Professions

This will be a question of defining an integrated policy on health to include all bio-medical training and its development on a ten-year basis. The latter will give an idea of the number of posts to be provided. and the kind of qualifications required for a reorganisation of work in the health and social fields.

Many types of establishments will have to be organised to train these medical specialists:

(a) Faculties of science and medicine

As well as medical studies stricto sensu, faculties of science must train:

- bio-medical engineers in the field of electronics. electromechanics. mathematics (statistics, medical data processing). chemistry (toxicology, nutrition), biology. management and organisation (medical planning etc.) at the rate of 300 to 500 per annum ten years from now.

- environmental engineers or sanitary engineers, for pest control. sanitary and social development etc.: 40 per annum.

(b) University Institutes of Technology (IUT): as well as existing courses (for medical, pharmaceutical and diabetic laboratories). other forms of training must be given there:

- biomedical technicians: 750 in 1982 (isotopic or physiological research, electronics or electromechanics);

- environmental technicians: protectors of health in the fields of pollution, housing, food (200 to 250 graduates per annum for 10 years);

- dieticians and medical or pharmaceutical laboratory technicians (450 graduates per annum).

These various possibilities of training offered in the IUT will be of interest to a number of students at the end of the first cycle of medical studies.

(c) Professional Schools

Courses for nurses, social assistants, special education teachers, midwives and kinesipaths would be provided in these schools free of charge. Professional schools would continue to improve the training given to laboratory assistants, radiology and chiropody masseurs. Links between higher education in science, medicine and the humanities would permit many students to follow these reorganised professions - the list of which is not exhaustive - to which must be added those which are studied only in technical lycées (prosthetic and orthopaedic surgery, ergotherapy, optician training).

If the organisation of the training of paramedical staff follows the most recent ideas, an entire reorganisation of the first cycle of medical studies as well as a system of guidance will be required.

The first cycle should then be conceived with a much broader base, possibly in the form of a biology and science propédeutique offering courses in science, medicine, pharmacy, biology, dentistry and other courses in the medico-social field. Following the propédeutique, guidance towards studies of varying length would be determined on the basis of the student's aptitudes and abilities. After the first year or after the 1st September, students should be counselled through a guidance programme, taking into account the aptitudes which have emerged, so that the number of students admitted to the second year corresponds to the possibilities in hospitals.

Although guidance counselling is recognised as necessary for students, there is the risk that if this is given after the student has completed all, or even part, of the first cycle, it might be too late for the student to make a successful reorientation in his studies. For this reason the working group feels that in the future it would be better to set up a type of selection process even before the first year of medical studies is undertaken.

B. Second Cycle. Generalisation of the Functions of Hospitals and the Hospital Law

This law has been passed in order to resolve some of the practical problems posed by allowing all students to work in hospitals from the third year of medical studies. There are, at present, an insufficient number of patient beds per student.

Consequently, the UER's were able to make agreements with various establishments assuring a state hospital service. So that the service can be systematically broadened, the bill envisages a reform of the administrative organisation of these establishments.

Thus private, profit-making establishments can be associated with the state hospital service by agreement. The service is organised by areas (50,000 to 200,000 inhabitants). Co-ordination will be ensured by inter-hospital groupings by area or region which will, in turn, lead to the establishment of inter-hospital unions.

The statute of these establishments will be simplified, hospital management made flexible and the medical corps more closely associated with them. The planning and development of the hospital system would be assured by a preliminary agreement procedure based on a map of health needs.

The number of students admitted to the second cycle would be determined by each UER on the basis of general criteria established in the national plan and taking into account hospital capacities.

A Ministerial ruling would define the general framework of instruction, but a great degree of autonomy is left to each UER. The working party concerned prefers "certificats coordonnés" bringing together fundamental biochemical-physiological and anatomical data, clinical and therapeutic data for the use of one physio-pathological body.

There are ten compulsory subjects (including social and preventive medicine) and two certificates for options chosen in medicine in the human biology cycle or in another literary or scientific establishment.

At the end of the second cycle a licence for medical practice will be awarded upon approval of the hospital work carried out and the supervision of the student's learning. This licence is given for a limited time and allows the student to finish his hospital work in the third cycle and to replace other doctors according to prescribed regulations.

C. Third Cycle

In accordance with the recommendations of the Common Market, medical study is completed by complementary and more detailed training for general practitioners and specialists. The general practitioner would take his clinical training as a resident doctor in non-university hospitals for two years and in care centres.

The second year (optional for the moment) might become a period of practical training among practitioners. In addition to the medical residency, courses would be offered in the broadly related fields treating the economic and social aspects of the profession.

The degree of Docteur en médecine would be given after the presentation to a jury of a series of individual or collective pieces of work instead of a thesis (cf. higher studies in science).

The specialist (30 per cent of degree holders, according to assumptions made) must attest to a high level of theoretical knowledge as well as to clinical training in a specialised field. He would be recruited on the basis of a national examination (with the present internship being abolished) by specialised field, depending on hospital needs and training possibilities.

The various UER would be responsible for selecting the students to sit the national examination. This third cycle would last from three to five years during which time the candidate would serve as an intern in a service of his specialisation. The qualification of future specialists is awarded by the college of specialists on the basis of an assessment of learning and appraisal by the heads of service, and on a thesis.

In this perspective, the development of the human biology cycle and its harmonisation with medical studies assumes major importance.

Annex XI

CLASSIFICATION OF EDUCATIONAL ESTABLISHMENTS ACCORDING TO THE AUTHORITY TO WHICH THEY ARE ATTACHED

The Grandes Ecoles come under the authority of a number of very different ministries. Either they are managed directly by the Ministry concerned or they have private status. Their degrees are recognised and their studies supervised indirectly by Ministerial authority.

1. The Ministry of Education

The old distinction has been abolished in that there is no longer a directorate of higher technical education. All the schools under the authority of the Ministry of Education are now controlled by the directorate for higher education. These are as follows:

- the four Ecoles normales supérieures (teacher training establishments);
- the Ecole de Chartes (school of palaeography and librarianship in Paris);
- the institute of political studies;
- the school of oriental languages.

In addition there are:

- the Ecoles nationales supérieures d'ingénieurs arts et métiers. There are six of these schools and they train technologists in all fields, particularly the engineering branches. The fourth and final year of the course is completed in Paris;

- the Ecole nationale des ingénieurs at Strasbourg. This establishment provides a four-year course training engineers and technologists in public works, mechanical engineering, electricity and topography. The competitive entrance examination is at baccalauréat level;

- the Ecole nationale supérieure des arts et industries textiles at Roubaix, which provides a two-year diploma course (brevet) and a four-year technologist's course. It comprises two sections: an industrial section and an applied arts section. Students for the technologist's course have to take a competitive entrance examination;

- the Ecole nationale supérieure de céramique industrielle at Sèvres. This has an ordinary four-year course for which candidates have to take a competitive entrance examination, and a special "applications course" which lasts only one year;

- the Ecole nationale de radiotechnique et d'électricité at Clichy, which trains both engineers and technicians. Prospective engineers have to take a competitive entrance examination at baccalauréat level and the course lasts four years;

- the Ecole centrale des arts et manufactures in Paris, which takes students with the "higher mathematics" qualification and gives them a four-year engineer/technologist's course. In the second year it takes students with the qualification of Ingénieur diplômé de polytechnique or holders of a licence in physical sciences or applied mathematics;

- the Ecole centrale lyonnaise. This establishment offers a three-year engineer/technologist's course to holders of the higher mathematics qualification, who must first take a competitive entrance examination;

- the Institut supérieur des matériaux et de la construction mécanique, which provides a three-year mechanical engineering course or a one-year advanced course for those already holding an engineer/technologist's diploma;

- the Conservatoire national des arts et métiers, which provides advanced training for those already with a trade with a view to their upgrading;

- the Ecole d'interprète et de traducteur. This school offers a one-year course for translators and interpreters, but they must be holders of a "licence";

- the Ecole des hautes études commerciales; no specific academic qualifications required; entrance is by competitive examination which cannot be taken more than three times. Candidates who passed the baccalauréat in the academic year preceding the examination are given preference. The course lasts three years.

- the schools of higher commercial studies for girls; these offer a three-year general course on legal, economic and commercial matters;

- the advanced business schools (Ecoles supérieures de commerce); a three-year course for baccalauréat holders;

- the Centre de préparation aux affaires de la chambre de commerce in Paris; this establishment offers a part-time advanced commercial course.

Some establishments, like the business and commercial schools mentioned above, have private status but their diplomas are recognised by the state.

2. The Prime Minister

- the Ecole nationale d'administration; entrance is by competitive examination of a very high standard; a two-year course of basic and advanced training for prospective senior civil servants is provided.

3. The Ministry of Agriculture

- the Institut national agronomique accepts students who have completed a two-year preparatory course and provides a three-year course to train certified agriculturalists or administrators in forestry (and water supply), agricultural engineering or stud farming. It is also a school of instruction for graduates of the Ecole nationale des eaux et forêts at Nancy, the Ecole nationale de génie rurale, the Ecole nationale du haras at Le Pin, and the Ecole supérieure appliquée d'agriculture tropicale.

- the Ecoles nationales supérieures d'agriculture (at Grignon, Montpellier and Rennes) train senior technical personnel and agricultural administrators. The competitive entrance examination is taken by students who have completed two years' preparation, and the course lasts three years;

- the Ecole nationale d'horticulture at Versailles offers a three-year training course to baccalauréat holders;

- the veterinary schools (at Maisons Alfort, Lyons and Toulouse) teach everything concerned with the production, preservation and utilisation of animals. Students have to complete one year's preparation, with the same syllabus as the old SPCN, before taking the competitive entrance examination. The course of studies lasts four years and leads to a veterinary doctor degree.

Also under the control of the Ministry of Agriculture are:

- the École nationale des industries agricoles et alimentaires;

- the École nationale des haras;

- the École nationale du génie rural;

- the École nationale des eaux et forêts; and

- the École nationale supérieure des sciences agricoles appliquées: which is a section of the INA.

4. Defence Ministry

- the École polytechnique;

- the École navale;

- the École nationale supérieure du génie maritime (School of Naval Architecture): accepts civil engineers and graduate engineers from the Ecole polytechnique. This school is to be merged with the École nationale supérieure des poudres and the École nationale supérieure de l'armement and will be known as the École nationale supérieure des techniques avancées.

- the École des ingénieurs mécaniciens de la marine (School of Marine Engineering);

- the École de l'air;

- École nationale supérieure de l'aéronautique;

- École nationale d'ingénieurs de constructions aéronautiques;

- the École spéciale des travaux aéronautiques;

5. Ministry of Industry and Commerce

- the Écoles nationales supérieures des mines (mining schools) at Paris, Nancy and Saint-Étienne have a three-year course for engineers and technologists;

- the École nationale supérieure du pétrole et des moteurs à combustion interne (provides a one-year course in oil engineering). Engineers and technologists are admitted according to their qualifications; holders of a licence in science are required to take an entrance examination. There is an optional research course of two years.

6. Ministry of Public Works, Transport and Tourism

- the École nationale des ponts et chaussées offers a two-year course for student engineers coming, for example, from the Ecole Polytechnique or the public works section and a three-year course for civil engineers.

7. Ministry of Posts and Telecommunications

- the École nationale supérieure des télécommunications has a two-year and a three-year engineering course for students having taken a competitive entrance examination requiring two years' preparation. Holders of a licence in science are admitted without examination.

Annex XII

TIMETABLES IN OPERATION IN THE DIFFERENT SECTIONS OF THE FIRST CYCLE OF SECONDARY EDUCATION

Classes de 6e et de 5e

	6e	5e
French	3 + 3 (1)	4 + 2
Mathematics	3 + 1	2 + 1 (2)
Modern Language	3 + 1	3 + 1
History, Geography, Civics	3½	3½
Biology (introduction to practical)	0 + 2	0 + 2
Art	0 + 1	0 + 1
Music	0 + 1	0 + 1
Manual work	0 + 1	0 + 1
Physical education	5	5
Total	27½	26½

Notes: 1) The first figure indicates the number of hours assigned to the full class, the second the number of hours assigned to half-classes.

2) A fourth hour of mathematics will be given when possible.

4e Class

Note: The first figure in brackets indicates the number of hours assigned to the full class, the second the number of hours assigned to groups of 24, at most, for supervised study.

Subjects	Compulsory hours
I - Fundamental subjects	
French (a)	5 (4 + 1)
Mathematics (b)	3 (2 + 1)
First modern language	3
Technology (c)	2 (0 + 2)
II - Disciplines d'éveil	
History, geography, civics group	3
Natural sciences	1 (0 + 1)
Art	1
Music	1
Manual work	1
III - Physical Education and Sports	5
Total of common core	25 [or 24 h (a)]
IV - Option: One subject from the following (d)	
Latin	4 (3 + 1)
Greek	3
Second modern language	3 (2 + 1)
First language in more detail	2

Notes:

a) Students studying Latin or Greek as their option have only four hours of French without repeating.

b) A fourth hour of mathematics can be given if possible because of spare hours of teachers or extra hours.

c) As a transitional measure, this subject will not be offered in establishments not having the necessary facilities, especially qualified staff, for the academic year 1970-1971.

d) Pupils will be able to add one more optional subject to the option chosen.

3e Class

Classical and modern lycées - CES

	Classical A	Classical B	Modern I
French	3 h 1/2	3 h 1/2	5 h 1/2
Latin	3 h 1/2	3 h 1/2	
Greek....................	3 h		
Civics...................	1/2 h (a)	1/2 h (a)	1/2 h (c)
Modern Language I........	3 h	3 h	3 h
Modern Language II(d)....		3 h	3 h
History and Geography....	3 h	3 h	3 h
Mathematics..............	3 h	3 h	3 h
Observational sciences...	1 h	1 h	1 h 1/2
Physical education(b)....	2 h	2 h	2 h
Art......................	1 h	1 h	1 h
Music	1 h	1 h	1 h
Manual work..............	1 h	1 h	1 h
Total....	25 h 1/2	25 h 1/2	24 h 1/2

Notes: a) One hour per fortnight of which one half-hour per month for teaching the Highway Code.

b) Of which one half-hour per month for instruction in the Highway Code.

c) Order of 26th October, 1964:
Article 3: In Fourth and Third Classical B and Fourth and Third Modern with two modern languages, the number of hours per week assigned to the second language shall be three. The class shall be split for one of these hours if the number of pupils is more than 24.

d) A minimum of 10 hours and a maximum of 15 hours per year are set aside from the physical education and open-air activities timetable for the practical exercises introduced under Article 3 of the Decree of 28th November, 1958 (relating to teaching of the Highway Code).

This block of time is divided into periods of one hour or one-and-a-half hours per month, on average, according to the facilities available and the technical assistance provided for under Article 7 of the aforementioned Decree and, possibly, the length of the journeys envisaged (Order of 31st July, 1959).

4e and 3e Classes

A) Collèges d'enseignement général - CES

Modern II - without technology
(Order of 24th July, 1947)

	Fourth	Third	
		Boys	Girls
French	5 h	5 h	5 h
Civics	1 h	1 h	1 h
History and Geography....	3 h	3 h	3 h
Modern Language......	4 h	4 h	4 h
Mathematics and geometric drawing..	4 h	4 h	1st term: 4 h 2nd and 3rd terms: 3 h
Manual work...............	1 h 1/2	1 h 1/2	1st term: 1 h 1/2
Dressmaking....			2nd term: 2 h 1/2
Child care................			3rd term: 2 h 1/2
Physical sciences...... ..	3 h	3 h	3 h
Natural sciences.........	1 h	1 h	1 h
Art.......................	1 h 1/2	1 h 1/2	1 h 1/2
Music	1 h	1 h	1 h
Physical education.......	2 h	2 h	2 h
Total...........	27 h	27 h	27 h

4e and 3e classes

B) Modern I - with technology

(Order of 23rd June, 1962, amended by the Order of 22nd May, 1963)

Subject	Fourth	Third
Mathematics	4 h (3+1)(a)	4 h (3+1)(a)
Chemistry	0	1 h (0+1)(a)(b)
Physics and technology:		
Boys	4 h (2+2)(a)(c)	4 h 1/2 (2+2 1/2)(a)(d)
Girls	2 h (2+0)(a)(e)	3 h 1/2 (2+1 1/2)(a)(f)
Home economics:		
Girls	2 h (0+2)(a)	2 h (0+2)(a)
Natural sciences	2 h 1/2 (1+1 1/2)(a)	0
History, geography, civics, and social education	3 h 1/2	4 h
French	5 h (4+1)(a)	5 h (4+1)(a)
Modern Languages:		
Standard course:		
Language I	3 h	3 h
Language II	3 h (2+1)(a)	3 h (2+1)(a)
Lighter course (g):		
One language	4 h (3+1)(a)	4 h (3+1)(a)
Art	1 h	1 h
Music	1 h	1 h
Physical education (h)	2 h	2 h
Totals		
Standard course	29 h	Boys: 28 h 1/2 Girls: 29 h 1/2
Lighter course	27 h	Boys: 26 h 1/2 Girls: 27 h 1/2

Notes:
a) The second figure in brackets relates to periods of supervised study or practical work in groups of 24 pupils, at most.

b) One 1-hour period per week, in principle, practical work.

c) Divided as follows: one 2-hour period of technical drawing and one 2-hour period of practical work in technology per week.

d) Divided as follows: one 1 1/2-hour period of physics (practical work, as a rule) and one 2-hour period of technical drawing per week; one 2-hour period of practical work in technology per fortnight.

e) One 2-hour period of technological analysis and technical drawing per week.

f) Divided as follows: one 1 1/2-hour period of physics (practical work, as a rule) and one 2-hour period of technological analysis and technical drawing per week.

g) Does not apply to modern sections in lycées.

h) Plus a sports period.

4e and 3e Classes

C. Adaptation Classes

Lycées - CES

(a) Normal

1. 4e Class

(Order of 2nd June, 1960, amended by the Order of 5th May, 1961)

Subject	Hours			
	Classical section		Modern section	
Mathematics	5 h	(3+2)(a)	5 h	(3+2)
Observational sciences	1 h ½	(½+1)	1 h ½	(½+1)
History and geography, civics	3 h	(3)	3 h	(3)
French	4 h ½	(3½+1)	6 h ½	(4½+2)
Latin	5 h	(4+1)		
Modern language I	5 h	(4+1)	7 h	(5+2)
Art	1 h	(0+1)	1 h	(0+1)
Music	1 h	(1+0)	1 h	(1+0)
Physical education	2 h	(2+0)	2 h	(2+0)
Manual work	1 h	(0+1)	1 h	(0+1)
	29 h	(21+8)	28 h	(19+9)

a) The first figure in brackets indicates the number of hours assigned to the full class, the second the number of hours assigned to groups of 24 pupils at most.

2. 3e Class

(Order of 5th May, 1961)

Subject	Classical section		Modern section	
French	4 h ½	(3½+1)	6 h ½	(4½+2)
Latin	5 h	(4+1)		
History, geography and civics	3 h		3 h	
Modern Language I	5 h	(4+1)	3 h	
Modern Language II			5 h	(4+1)
Mathematics	5 h	(4+1)	5 h	(4+1)
Observational sciences	1 h ½		1 h ½	
Art	1 h		1 h	
Music	1 h		1 h	
Manual work	1 h		1 h	
Physical education	2 h		2 h	
(a)	29 h		29 h	

a) Plus the weekly period for open-air activities as provided for by the Order of 15th January, 1947.

(b) Experimental groups

(Order of 23rd June, 1962, amended by the Order of 22nd May, 1963)

Subject	4e		3e	
Mathematics	5 h	(3+2)(a)	5 h	(4+1)(a)
Chemistry		0	1 h	(0+1)(a)(b)
Physics and technology:				
Boys	4 h	(2+2)(a)(c)	4 h ½	(2+2½)(a)(d)
Girls	2 h	(2+0)(a)(e)	3 h ½	(2+1½)(a)(f)
Home economics (girls)	2 h	(0+2)(a)	2 h	(0+2)(a)
Natural sciences	2 h	(½+1½)(a)		0
History, geography, civics and social education	3 h(h)		4 h(i)	
French	6 h	(4+2)(a)	6 h	(4+2)(a)
Modern language	6 h	(4+2)(a)	4 h	(3+1)(a)
Art	1 h	(0+1)(a)	1 h	(0+1)(a)
Music	1 h		1 h	
Physical education(g)	2 h		2 h	
Totals	30 h		Boys: 28 h ½ Girls: 29 h ½	

a) The second figure in brackets designates periods of supervised study or practical work in groups of 24 pupils at most.

b) One 1-hour period per week, in principle, practical work.

c) Divided as follows: one 2-hour period of technical drawing and one 2-hour period of practical work in technology per week.

d) Divided as follows: one 1½-hour period of physics (practical work, as a rule) and one 2-hour period of technical drawing per week; one 2-hour period of practical work in technology per fortnight.

e) One 2-hour period of technological analysis and technical drawing per week.

f) Divided as follows: one 1½-hour period of physics (practical work, as a rule) and one 2-hour period of technological analysis and technical drawing per week.

g) Plus the sports period.

h) These three hours are assigned as follows: one hour of history, one hour of geography and one hour of civics and social education (note of 23rd November, 1963).

i) These four hours are assigned as follows: two hours of history, one hour of geography, one hour of civics and social education (note of 23rd November, 1963).

Indicative timetable for terminal practical classes

(4e and 3e classes)

Weekly activities in each class	Hours
1. Expression training (analysis and explanation of freely chosen texts, accounts of passages read, play reading, etc.), 1 1/2 hours per class, 1/2 hour per half-class to help pupils catch up with the work.	2 h (1 h 1/2 + 1/2)(a)
2. Surveys based on documentation, visits and interviews: history, geography, natural sciences, and economics (labour market, purchase and sales transactions, family budgeting, etc.). Preparation, execution, utilisation of results: 1 1/2 hours per full class + 1 hour per half-class.	2 h 1/2 (1 h 1/2 + 1 h)
3. Mathematics and logic (preparatory manipulations, generalisation - graphs, curve plotting, compilation and utilisation of double-entry tables) 1 1/2 hours per full class + 1/2 hour per half-class to help pupils catch up with the work.	2 h (1 h 1/2 + 1/2)
4. Scientific and technological training.	5 h (2 h 1/2 + 2 h 1/2)
a) Scientific manipulations: 1 hour per half-class.	
b) Assembly/dismantling of mechanisms: 1 1/2 hours per half-class.	
c) Utilisation of standardized drawing and plans.	
d) Analysis of manufacturing techniques prior to work in the shop: 1 1/2 hours per full class.	
e) Mathematical and technological utilisation of observations: 1 hour per full class.	
5. Light manufacturing work (acquisition of all-round occupational skill).	7 h 1/2 (4 h 1/2 + 3 h)
a) Common course for boys and girls (shop work with light tools, soldering, electrical assembly, etc.), 3 hours per half-class (two 1 1/2-hour periods).	
b) Specialised course - Boys: iron and wood work, work with building materials, etc., use of current shop machinery. Girls: work with thread and fabrics, cookery, use of domestic machines and appliances. Boys' group and girls' group, five 1 1/2 hour periods.	
6. Systematic educational exercises (to tie in with the preceding course): 3 hours per half-class.	2 h (0 + 2 h)
a) Psychomotor activity (dexterity, precision, speed, ambidexterity, etc.).	
b) Classification operations (goods display), management of stores, shopkeeping, etc.	
c) "Business" conversation and drafting (report writing, comprehension of orders, etc.).	
7. Aesthetic training:	3 h (0 + 3 h)
a) Manual work (basket-making, weaving, pottery, modelling, etc.).	
b) Painting and drawing, half-classes.	
c) Singing, musical appreciation (records) in addition to school choir activities.	
8. Physical education and sports: Physical education course. Open-air activities and sports.	2 h (2 h + 0) + O.A.
Total...........	26 h (13 h 1/2 + 12 h 1/2) + O.A.

a) The first figure in brackets indicates the number of hours assigned to the full class, the second the number of hours assigned to half-classes.

Annex XIII

TIMETABLES IN OPERATION IN THE DIFFERENT SECTIONS OF THE "LONG" SECOND CYCLE OF SECONDARY EDUCATION

AND

DIAGRAMS SHOWING THE STRUCTURE OF TECHNICAL EDUCATION

2e Class

	Subjects	A	C	T
	I. - Subjects common to all pupils.			
	- French	5	5	4
	- History, Geography, Civics	4	4	2
	- Modern Language I (a)	3	3	3
	- Mathematics	3 (b)	5	5
	- Physics	3 (1+2)	4 (2+2)	4 (2+2)
	- Physical education and sports	5	5	5
	II.- Optional subjects			
	A. - First option			
	- Latin	3	3	-
or	- Modern Language II (c)	3	3	-
or	- Introduction to business (2 hours) and typing (3 hours)	5	-	-
or	- Construction (industrial drawing and technology)	-	-	6 (d)
or	- Construction (industrial drawing, descriptive geometry and technology)	-	-	5
or	- Industrial drawing	-	-	3
or	- Introduction to biological techniques and glass work	-	-	3
	B. - Second Option			
	- Greek	3	-	-
or	- Modern Language II	3	-	-
or	- Modern Language III	3	-	-
or	- Study of translated texts	2	-	-
or	- Introduction to economic and social facts	4	-	-
or	- Practical work (in shop)	-	-	6
or	- Practical work (civil engineering)	-	-	7
or	- Physics (2 hours extra) and laboratory work (7 hours)	-	-	9
or	- Music (e)	3	-	-
or	- Plastic art and architecture (e)	3	-	-
	III. - Optional subjects			
	- Greek	-	3	-
or	- Modern Language II (g)	3 (f)	3	1
or	- Art	1	1	-
or	- Music	1	1	-
or	- Manual work	1	1	-
or	- Typing (h)	3	-	-

Notes: a) The overall timetable will include 1 hour supervised study in all schools which can ensure it by hours included in the teachers' time or in extra hours.

b) Pupils in "Seconde A" will be allowed to follow a supplementary mathematics course of 1 1/2 hours per week as from 1st November, 1969.

c) Beginners in the Modern Language II course will have 5 hours of instruction. In Section A the pupils are not required to take a second option. However they have the option of taking the introduction to economic and social facts.

d) One hour of which is devoted to the technology of manufacture.

e) The arts option is only for pupils in "Seconde A" who have chosen Latin, Modern Language II or Modern Language II (for beginners) as their first option. These pupils can choose only Greek or Modern Language II as their options.

N.B. - The arts option is offered to pupils only by establishments mentioned in a list decided by the Ministry of Education.

f) In "Seconde A" the option of Modern Language II is for pupils who have chosen introduction to business of "arts".

g) Only for pupils who began a second language in the first cycle.

h) This option is only for pupils who have chosen introduction to economics as their second option.

1e Class

Subjects	A	B	C	D	E
I. - Subjects common to all pupils					
French	5	4	4	4	4
History, geography, civics	4	4	4	-	2
Modern Language I	3	3	3	3	3
Mathematics	2(e)	4	6	5(e)	6
Physics	2	2	5	4	4
Natural sciences	2	2	-	3	-
Economics	-	4	-	-	-
Construction (industrial art)	-	-	-	-	8
Practical work (in shop)	-	-	-	-	4
Physical education (a)	5	5	5	5	5
II. - Optional Subjects					
A - First option					
Latin or Modern Language II	3	3	3(c)	3(c)	-
B - Second option					
Greek or Modern Language II or Modern Language III	5	-	-	-	-
or Study of translated texts and Latin and Greek literature	2				
or Music (d)	3	-	-	-	-
or Plastic Arts and architecture (d)	3	-	-	-	-
III. - Optional lessons					
Latin Greek Modern Language II (b)	-	-	3	3	-
Art	2	2	2	2	-
Music	1	1	1	1	-
Manual work	1	1	1	1	-

Notes:

a) In this is included the half-day of outdoor activities provided for by the Order of 15th January, 1947.

b) The time-table for Modern Language II is increased to 5 hours for pupils who began the subject in the Second Class. In Section A, these pupils are not required to choose a second option.

c) These subjects have become optional courses (Order of 23rd September, 1969).

d) Students following this arts course need not study natural science, but may follow an optional course of Greek or a second modern language.

e) Pupils in Section A have 2 hours': optional courses and those of Section D one hour.

Terminal Classes

Subjects	A	B	C	D	E
Subjects common to all pupils					
Philosophy....	8	5	3	3	3
History, geography and civics....................	4	4	3	3	
Modern Language I...............................	3	3	2	2	2
Mathematics..	(c)	4 1/2	8	8	7
Physics..			5	4	5
Natural sciences....................................			2	4	
Economics		4			
Construction (industrial drawing)................					7
Practical work (in shop)...........................					4
Physical Education (a)............................	2	2	2	2	2
Optional Subjects					
First option					
Latin or Modern Language II......................	3	3			
Second Option(d)					
Greek...) or Modern Language II..............................) or Modern Language III ....)	3				
or Mathematics (b)..................................	2				
TOTAL..	22 or 23	25 1/2	25	24	30
Optional Subjects					
French...	2	2	2	2	2
Latin or Greek or Modern Language II............			3	3	
Art	2	2	2	2	
Music	1	1	1	1	
Manual work (girls).................................	1	1	1	1	

Notes:

a) To this is added half a day provided for by the Order of 15th January, 1947.

b) Pupils who have chosen the option Latin-Mathematics (2 hours) can follow the optional subject of Greek for 3 hours if they studied this subject in 2e and 1e classes.

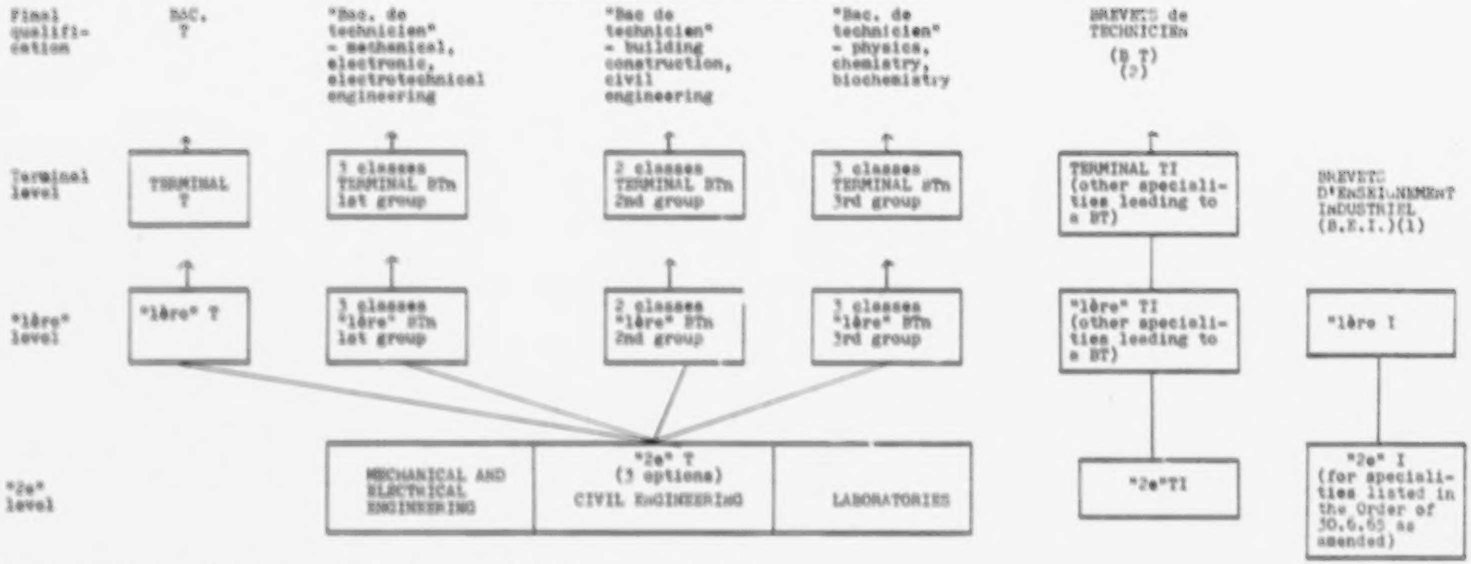
Those who chose the option Modern Language II-Mathematics can opt for Modern Language III if they studied this subject in 2e and 1e classes.

c) Pupils in terminal class A who did not choose the option Mathematics (2 hours) need not take the 1 hour per week course of Mathematics (Order of 31st July, 1967).

d) At the beginning of the academic year 1969 in section A, an arts subject relating to Music or to the study of the Plastic Arts and Architecture is offered as a second option for pupils in establishments mentioned in a list decreed by the Ministry of Education. Pupils following this course must choose Latin or Modern Language II as their first option. They may also choose Greek or Modern Language II as a further optional subject.

DIAGRAM I

INDUSTRIAL TECHNICAL SECTIONS OF LYCEES


Final qualification
BAC. T
"Bac. de technicien" - mechanical, electronic, electrotechnical engineering
"Bac de technicien" - building construction, civil engineering
"Bac. de technicien" - physics, chemistry, biochemistry
BREVETS de TECHNICIEN (B T) (2)
BREVETS D'ENSEIGNEMENT INDUSTRIEL (B.E.I.)(1)
Terminal level
TERMINAL T
3 classes TERMINAL BTn 1st group
2 classes TERMINAL BTn 2nd group
3 classes TERMINAL BTn 3rd group
TERMINAL TI (other specialities leading to a BT)
"1ère" level
"1ère" T
3 classes "1ère" BTn 1st group
2 classes "1ère" BTn 2nd group
3 classes "1ère" BTn 3rd group
"1ère" TI (other specialities leading to a BT)
"1ère I
"2e" level
"2e" T (3 options)
MECHANICAL AND ELECTRICAL ENGINEERING
CIVIL ENGINEERING
LABORATORIES
"2e"TI
"2e" I (for specialities listed in the Order of 30.6.65 as amended)

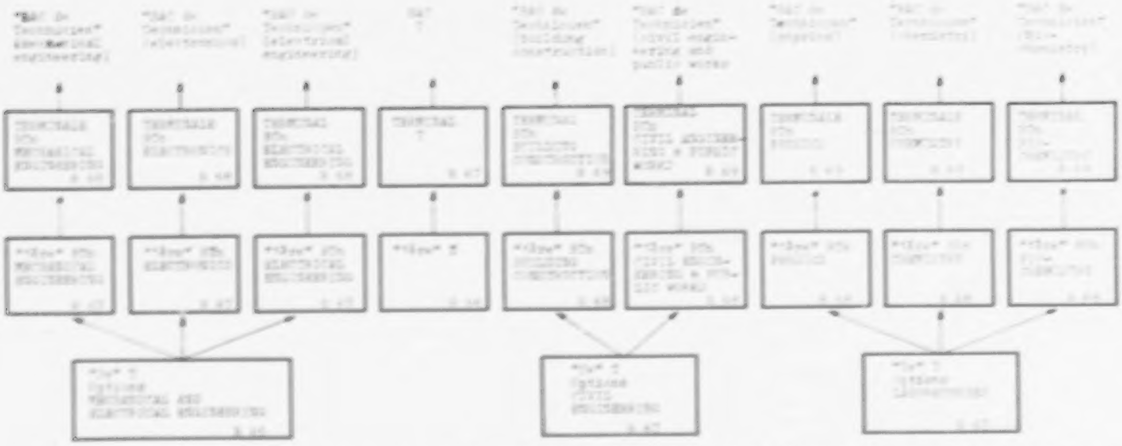
Source: "Bulletin officiel des lois et règlements de l'Education nationale."

1) B E I maintained by the Order of 30.6.65 as amended.

2) Or, as a transitional measure, "diplômes d'élève breveté des lycées techniques de l'Etat" (Decree no. 66 146 of 11th March, 1966).

DIAGRAM II

PREPARATION FOR THE "BACCALAUREAT DE TECHNICIEN" IN THE INDUSTRIAL SECTOR

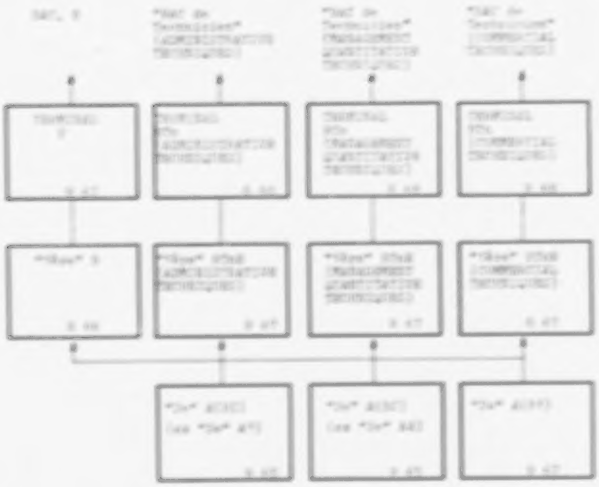


Note: The symbols R 65, R 66, R 67 ... etc., mean that the class was or will be open for the first time at the beginning of the academic year 1965, 1966, 1967 ... etc.

Source: Bulletin officiel des lois et règlements de l'Education Nationale.

DIAGRAM III

PREPARATION FOR THE "BACCALAUREAT DE TECHNICIEN" IN THE ECONOMICS SECTOR



Note: The symbols R 65, R 66, R 67 ... etc., mean that the class was or will be open for the first time at the beginning of the academic year 1965, 1966, 1967 ... etc.

Source: Bulletin officiel des lois et règlements de l'Education Nationale.

Annex XIV

TIMETABLES FOR THE "SHORT" SECOND CYCLE OF SECONDARY EDUCATION

Source: Indicative timetables submitted (but not published) by the Ministry of Education.

BEP TYPE-TABLES (INDUSTRY SECTOR)

	Outiller	Machine operator		Mechanic-assembler		Electrician	
VOCATIONAL EDUCATION	27	33 of which science (with technology)	33 of which science (with technology)	29	29	29	30
SCIENTIFIC EDUCATION	3 Maths science	5 Maths science	5 Maths science	5 Maths science	5 Maths science	5 Maths science	4 Maths science
GENERAL EDUCATION	[illegible] French Industrial legislation Accident prevention Civics	3 French Industrial legislation Accident prevention Civics	3 French Industrial legislation Accident prevention Civics	4 Artistic instruction French Industrial legislation Accident prevention Civics	4 Artistic instruction French Industrial legislation Accident prevention Civics	4 Artistic instruction French Industrial legislation Accident prevention Civics	4 Artistic instruction French Industrial legislation Accident prevention Civics
PHYSICAL EDUCATION	2	2	2	2	2	2	2
TOTAL	40	43	43	40	40	40	40
	"2e" and "1ère"	"2e"	"1ère"	"2e"	"1ère"	"2e"	"1ère"
	Outiller	Machine operator		Mechanic-assembler		Electrician	

BEP TIME-TABLES (TERTIARY SECTOR)

	Administrative assistant		Shorthand typist, correspondence clerk		Bookkeeper, machine operator		Commerce	
VOCATIONAL EDUCATION	15	15	19	21 of which practical maths	16	16	15	15
SCIENTIFIC EDUCATION	3 Maths	3 Maths	3 Maths	1 Maths	3 Maths	2 Maths	3 Maths	2 Maths
GENERAL EDUCATION	8	10 2 Public insti-tutions	8	9 1 Public insti-tutions	8	9 1 Public insti-tutions	9 1 Elements of law	10 Public insti-tutions 1 Labour legislation Social Security
	1 Elements of law	1 Labour legislation Social Security	1 Elements of law	1 Labour legislation Social Security	1 Elements of law	1 Labour legislation Social Security	3 Foreign language	3 Foreign language
	2 Foreign language	2 Foreign language	2 Foreign language	2 Foreign language	2 Foreign language	2 Foreign language		
	1 Current events	1 Current events	1 Current events	1 Current events	1 Current events	1 Current events	1 Current events	1 Current events
	4 French language	4 French language	4 French language	4 French language	4 French language	4 French language	4 French language	4 French language
PHYSICAL EDUCATION	2	2	2	2	2	2	2	2
TOTAL	28	30	32	33	29	29	29	29
	"2e"	"1ère"	"2e"	"1ère"	"2e"	"1ère"	"2e"	"1ère"
	Administrative assistant		Shorthand typist, correspondence clerk		Bookkeeper, machine operator		Commerce	

ADMINISTRATION OF THE STATE EDUCATION SYSTEM BEFORE 1968

After this broad description of the reforms affecting the content of education at the various levels, some attention must be paid to their effects on the three-tier system of administration:

- Central administration: the Ministry
- Regional administration: the academic region or department
- Local administration: the school.

In practice, the reforms have affected only the central administrative structure, as the Ministry has been largely remodelled. While there has been some regional deconcentration, there has been no change in the administrative structure of the individual establishments.

To complete the picture, the annex will furnish an analysis of the administrative organisation of state education at all three levels.

I. Educational reform and the reorganisation of the Ministry of Education

The scope of the reforms described above, and the large numbers affected, made it necessary to reorganise completely the Ministry of Education so as to ensure effective co-ordination between the different departments and services, and decentralise administrative responsibility - an essential requirement if the purposes of the reform were to be achieved.

The new structure was introduced gradually, starting from 1963. Earlier attempts at reorganisation had proved abortive.

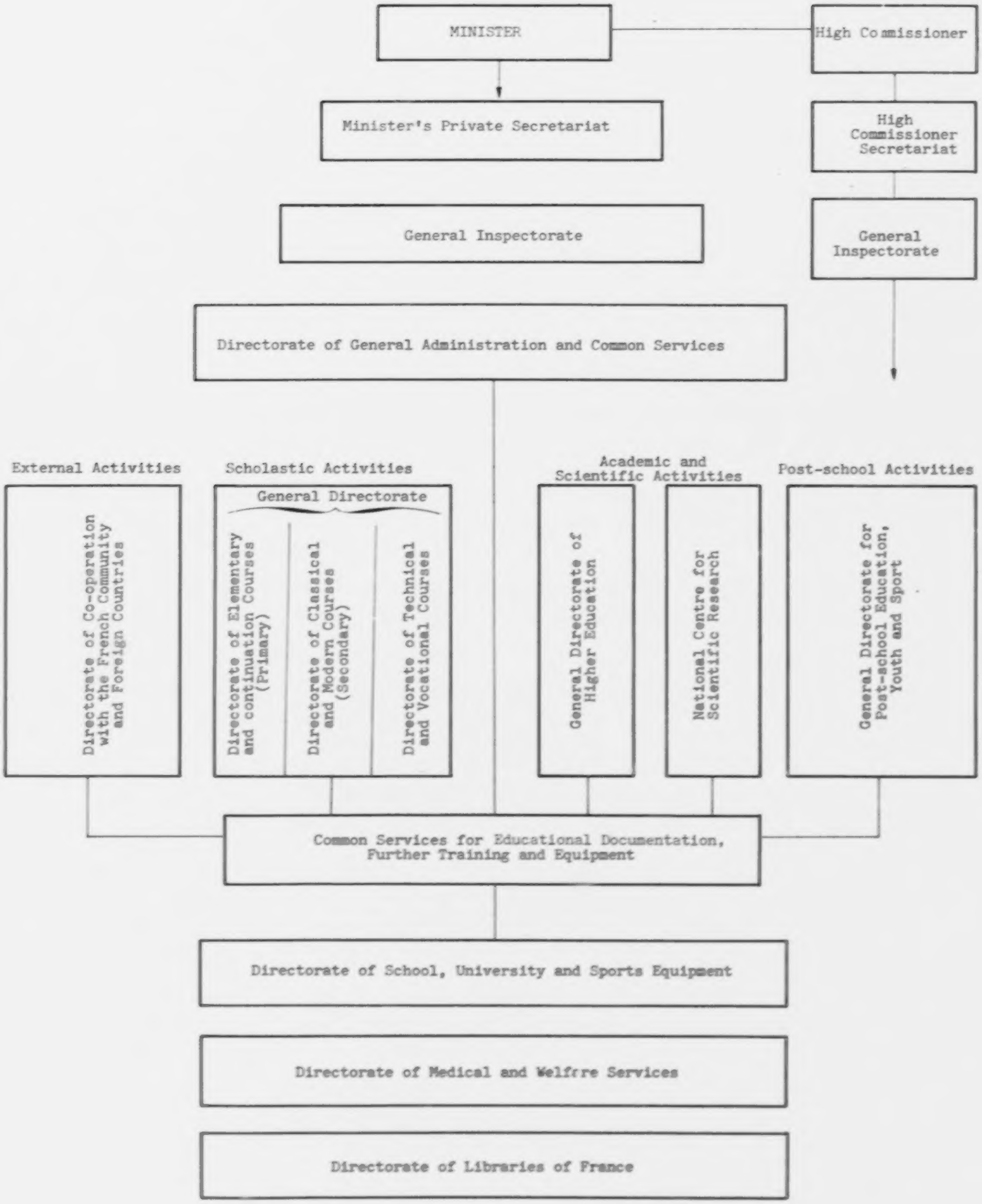
A. The old structure

In 1959, when the first reform measures were made public, the Ministry was organised on the following lines. A High Commissariat for Youth and Sport and the following 13 departments and services were directly responsible to the Minister and his immediate staff:

- General directorate of general administration
- Directorate of primary education
- Directorate of secondary education
- Directorate of technical education
- General directorate of higher education
- National centre for scientific research
- School and university health service
- Central scholarship service
- Directorate of libraries
- Directorate of co-operation, responsible for relations with the French community and foreign countries
- Directorate of school, university and sports equipment
- Documentation and educational research services.

DIAGRAM I

ORGANISATION OF THE MINISTRY OF EDUCATION


MINISTER
High Commissioner
Minister's Private Secretariat
High Commissioner Secretariat
General Inspectorate
General Inspectorate
Directorate of General Administration and Common Services
External Activities
Scholastic Activities
Academic and Scientific Activities
Post-school Activities
Directorate of Co-operation with the French Community and Foreign Countries
General Directorate
Directorate of Elementary and continuation Courses (Primary)
Directorate of Classical and Modern Courses (Secondary)
Directorate of Technical and Vocational Courses
General Directorate of Higher Education
National Centre for Scientific Research
General Directorate for Post-school Education, Youth and Sport
Common Services for Educational Documentation, Further Training and Equipment
Directorate of School, University and Sports Equipment
Directorate of Medical and Welfrre Services
Directorate of Libraries of France

The Inspectorate and financial control services stood between the Minister and the directorates.

The directorates dealing with the various aspects of education were thus a series of vertical divisions completely cut off from each other. This was a serious obstacle to the balanced and harmonious development of the educational system as a whole, which was the aim of the reform (technical education is a case in point).

In 1960, a first attempt at reorganisation was made.

A Directorate of General Administration and Common Services was first set up, dealing with official regulations, documentation, research and legal disputes and embracing the services dealing with general affairs, the budget, the accounting system, general regulations and administration.

Next, a number of former directorates were combined in four groups:

- School education: under the control of a general directorate, but operating independently, were the Directorate of Elementary Education and Continuation Courses, the Directorate of Classical and Modern Educational Courses, and the Directorate of Technical and Vocational Education.

- External activities were combined with the Directorate of Co-operation.

- University and scientific education includes the National Centre for Scientific Research (CNRS) and the General Directorate of Higher Education.

- Post-school activities were covered by the General Directorate for Post-school Education, Youth and Sports.

There are, in addition, three logistic directorates:

- Directorate of school, university and sports equipment
- Medical and welfare services
- Libraries directorate.

The central administration was also assisted by a number of advisory bodies, the chief being the Higher National Council for Education(1).

Finally, the general inspectorates were required to keep the Minister informed of the efficiency of the education system. Their functions included:

- assessing teaching standards;
- appraising the quality of the education provided;
- preserving the nation's cultural heritage (libraries, etc);
- checking the efficiency of the administrative services.

The various inspectorates (which each worked separately in its own limited sphere) and the organisation of the Higher National Council for Education are being reviewed as a consequence of the reform.

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1) Mention may also be made of: the Council for Secondary Education, the Council for Technical Education, the Council for Primary Education, Workers' Education and Sports, etc.

B. New structures (pre-May 1968)

The present structure of the central administration was gradually instituted by the Decrees of 15th October, 1963, 14th March, 1964, 17th December, 1964 and 19th November, 1966.

The new structure is shown in the diagram which follows.

One important development is the establishment of a general secretariat to co-ordinate all activities and serve as an intermediary between the Minister and the directorates. Certain strategic services come directly under the Secretary-General, e.g.:

- Permanent secretariats of the Council for the Co-ordination of Research.

- Budget service responsible for drawing up and supervising the budget of the Ministry of Education. This service formulates and conducts financial studies for the preparation of the Plan, handles the Ministry of Education's relations with the Ministry of Finance, and exercises the central administration's powers of financial control and oversight of the establishments directly responsible to the Ministry of Education.

- The School and University Planning Service co-operates with the directorates in planning the development and location of schools and universities. It acts as a link with the General Planning and Productivity Commissariat and the Délégation à l'Aménagement du Territoire (regional development authority).

- Legal adviser and CSEN(1) secretariat.

- The Central Service of Statistics and Economic Studies compiles, analyses and diffuses the Ministry of Education statistics, and plans statistical and economic studies.

- The General Inspectorates, responsible both to the Minister and to the Secretary-General, thus representing a focus of unified planning and co-ordination.

The directorates have also been reorganised.

- The Directorate of Higher Education is responsible for the organisation and management of higher educational establishments, for planning the study programmes and examinations, and administering the university staff. One innovation compared with the previous system is that the directorate is responsible for training facilities for senior technicians (an essential function in view of the creation of the IUT's). The CNRS, the National University and School Welfare Centre, and the University Bureau of Statistics and Scholastic and Vocational Documentation, come under this directorate.

The Directorate of Pedagogics, School Education and Educational Guidance combines the former directorates of primary, secondary and technical education. It comprises three services:

- Pedagogic studies, dealing with teaching methods and programmes for general, arts, technical, vocational and special courses, medico-social educational problems, and the functional organisation of educational guidance. This is an entirely new service.
- Education.
- Organisation and administration of schools.

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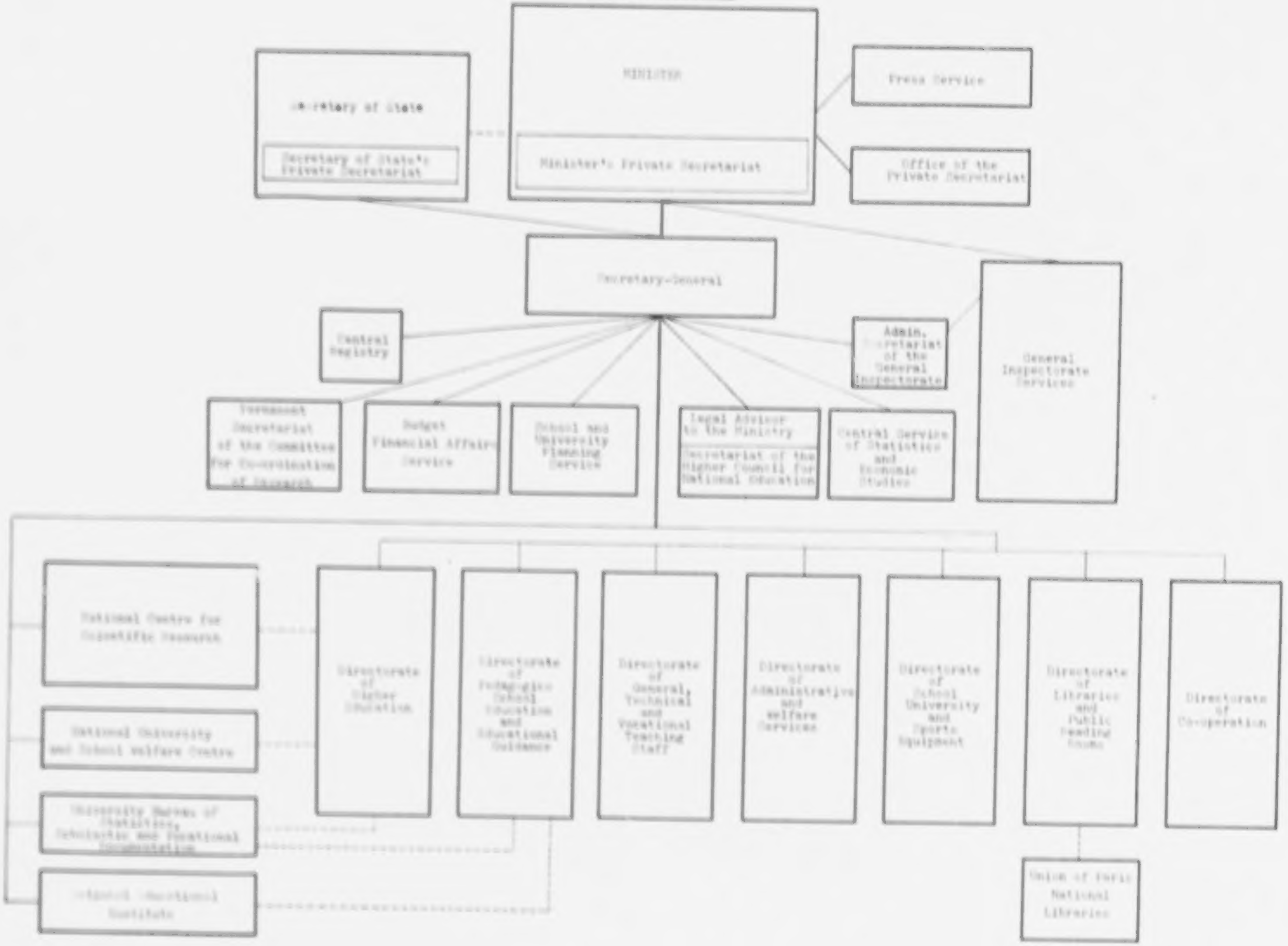
(1) Higher National Council for Education.

DIAGRAM II

MINISTRY OF EDUCATION

STRUCTURE PRE-MAY 1968


MINISTER
Minister's Private Secretariat
Secretary of State
Secretary of State's Private Secretariat
Press Service
Office of the Private Secretariat
Secretary-General
Central Registry
Admin. Secretariat of the General Inspectorate
General Inspectorate Services
Permanent Secretariat of the Committee for Co-ordination of Research
Budget Financial Affairs Service
School and University Planning Service
Legal Advisor to the Ministry
Secretariat of the Higher Council for National Education
Central Service of Statistics and Economic Studies
National Centre for Scientific Research
National University and School Welfare Centre
University Bureau of Statistics, Scholastic and Vocational Documentation
National Educational Institute
Directorate of Higher Education
Directorate of Pedagogic School Education and Educational Guidance
Directorate of General, Technical and Vocational Teaching Staff
Directorate of Administrative and Welfare Services
Directorate of School University and Sports Equipment
Directorate of Libraries and Public Reading Rooms
Directorate of Co-operation
Union of Paris National Libraries

- The Directorate of General, Technical and Vocational Teaching Staff is also a recent development made necessary by the increase in the numbers of secondary school teachers. The directorate is responsible for drawing up recruiting plans, in liaison with the school planning service coming under the Secretary-General, preparing official regulations in conjunction with the budget service and administering the teaching staff.

In addition there are the following older directorates:

- Directorate of administrative and welfare services;
- Directorate of school, university and sports equipment;
- Directorate of libraries and public reading rooms;
- Directorate of co-operation.

To complete the picture, mention should be made of the Secretariat of State for Education, working with the Minister, and dealing more particularly, on the Minister's behalf, with the treatment of maladjusted children, improved social and occupational status, extra-curricular and post-school activities, and co-operation.

C. Reform of the General Inspectorate Services

The purpose of the reform is to remedy the traditional fragmentation of the inspection function. It affects the general inspectorate services of the central administration and of the public education system.

1. General administrative inspectorate

The directives of 24th March, 1966, lay down the organisation and operation of the general inspectorate of the central administration of the Ministry of Education, as prescribed in the Decree of 21st May, 1965.

- Formerly, the general administrative inspectorate was divided into three distinct bodies (concerned with administrative services, boarding establishments and welfare services for students), which were attached to the various sections of the Ministry for which they carried out time-consuming surveys and studies on specific questions, without attacking general problems.

- Under the new provisions a single inspectorate has been set up, more flexible and more independent of the directorates, directly responsible to the Minister and Secretary-General, with enlarged powers over the departmental services as a whole (covering administration, finance, accounting and internal economy, inspection of staffs, educational services, schools and all establishments coming under the authority or control of the Ministry of Education).

The inspectorate thus has general control over both the central and external services, but cannot exercise its authority to supplant any directorate which has the sole power of decision. The idea is to give the general administrative inspectorate a functional unity, backed by enlarged powers, with a new approach and new methods, so as to make it an efficient instrument for the high level supervision essential in any large administration where deconcentration of management is needed.

The regulations prescribed 24 inspectors and 16 inspectors-general. There will also be permanent inspection teams of a functional nature to supervise the administration of the central and academic services, and temporary *ad hoc* inspection teams for specific investigations.

C. Inspectorate of Public Education

The inspectors are responsible for inspecting the teaching staff and quality of schools (competence of teachers, management of school premises, value of education) at secondary level, on a direct mandate from the Minister. They may also undertake general studies at his express request.

D. Reform of the Higher National Council for Education (pre-May 1968)

This advisory body attached to the central administration of the Ministry is consulted on all educational matters of national interest. Its membership has been altered because of the importance allotted to educational guidance in the reform of the system. It formerly comprised 50 representatives of the state education system, 24 representatives of the central administration and 5 representatives from the private sector.

The Council is now made up as follows: under the chairmanship of the Minister, assisted by two vice-chairmen appointed by decree, it consists of:

- 25 members of the administration (including 10 former teachers), who are *ex officio* members appointed by reason of the functions they perform, or by decree.

- 25 members including persons chosen on their merits, representatives of professional circles, parents' associations, students and trade unions.

- 5 members representing the private sector.

II. Regional and Local Administration of the State Education System

The individuals or organisations responsible for the administration of the state education system at these levels act as a link between the central administration and the school or college boards, and co-ordinate the administrative services at their own level of action.

The regional and local authorities are:

- the Académie (educational district), dealing with all educational services at every level.

- the Academic Inspectorate, dealing with primary and secondary education.

Each Académie corresponds to a regional area; there have been 23 Académies since 1st October, 1965, each headed by a Rector appointed by presidential decree. He is the executive authority for the university, and is in charge of all administrative services of the national education system for the region; in this capacity, he exercises, on behalf of the Ministry, administrative and pedagogic supervision over all educational establishments in the region. The Rector is advised by the University Council at higher education level, and by the Academic Council - regional counterpart of the Higher National Council for Education, with disciplinary powers over secondary school teaching staff, and administrative powers, with the right to be consulted on every educational problem arising in the region.

Each Academic Inspectorate corresponds to a geographical department. It is headed by the Inspecteur d'académie, who is the Rector's direct subordinate in the department. His powers cover the whole system of primary and secondary education. He, too, is advised by a departmental council of primary education, which exercises administrative and disciplinary powers over primary teaching staff, and by a departmental committee for technical education.

These bodies, which act as intermediaries between the Ministry and the individual educational establishments, are run on traditional lines untouched by the reforms; this raises two problems, one political, the other administrative.

The political problem concerns the relations between the prefectoral corps and the representatives of the Ministry of Education. While the latter's administrative autonomy is preserved in practice, the prefects (for primary and secondary education) and the regional prefects (for secondary and higher education) have a right of oversight of the operation of the national education system in their area, and may make recommendations on staff appointments (e.g. of primary school teachers), or even on educational investment (location of schools, for instance). This is indicative of a centralised system.

The administrative problem concerns the efficacy of the administrative structure of regional and local education. Despite some recent attempts at deconcentration, a large sector of education is still centralised, and many questions are still referred back to Paris. As for decentralisation (a much wider problem), it is practically non-existent.

Deconcentration is practically complete as regards decisions on primary school buildings, but there has been very little change at secondary and higher level. Nevertheless, since the Decrees of 16th January and 11th April 1962 came into force, the Rector acts in lieu of the Minister in the administrative supervision of schools, and has authority over the teaching staff (under the Decree of 11th February, 1964), other than agrégés and academic staff who come directly under the control of the Ministry.

A. Organisations and individuals concerned with the regional and local operation of the state education system at primary and secondary level

The set-up is as follows: the Inspecteur d'académie, who exercises general supervision over the state education system throughout the department, is assisted at primary level by the inspector of primary education and the departmental council of primary education. The chosen or elected representatives of the local communities, e.g. the prefect and the mayor, also assume some responsibility for school administration. The inspector proposes staff nominations to the Rector, exercises disciplinary powers over teaching staffs and some pedagogic functions (he appoints the examination boards and selects the tests to be taken for diplomas).

There is one inspector of primary education for each department, immediately responsible to the Inspecteur d'académie; he is an ex officio member of all school boards in his area. He presides over the examination boards, and makes recommendations for the appointment and advancement of teachers. After each inspection, he prepares a report on both the teaching methods in the school as a whole, and the teaching staff, and writes up inspection records on individual members.

The Departmental Council of Primary Education has deliberative functions, and arranges for the inspection of public and private primary schools in respect of hygiene or sanitation. The Council, which is not concerned with the teaching side, consists of: the inspectors-general, the Rector and Inspecteur d'académie, the inspectors of primary education, the mayors and cantonal delegates, and the communal and departmental medical inspectors. The Council is chaired by the Prefect, who also supervises (under the Decree of 18th January, 1887) the management of the school (as regards hygiene, sanitation, condition of the premises, precautions to be taken in case of epidemics, etc.). Lastly, the mayor is responsible for school hygiene, heating and lighting, and the maintenance of the premises. He appoints the school doctor, and provides accommodation for the teacher. Assisted by the municipal council he decides on the creation of new classes or schools.

B. Organisation of higher education in the academic area

Responsibility for higher education in each Académie lies with the Rector; the Rector is assisted by various deliberative and consultative bodies.

The Rector is appointed by an Order in Council signed by the President of the Republic, and invariably holds the degree of Docteur d'État. His attributions are laid down in the Decree of 22nd August, 1854. He directs the whole higher educational system in his area, and attends meetings of academic and preparatory school staff. Once a month he convenes the committee of deans of faculties and principals of preparatory schools. He puts forward proposals concerning the budget and the accounts of individual establishments. He takes decisions, after consulting the faculties, on the enrolment of students, and organises the examinations. He investigates university matters, and executes decisions of the university council. Finally, he acts as the university's legal representative. In addition, by a Circular of 24th April 1946 he is appointed Chairman of the University Council and the Academic Council, as the representative of the central authority.

The University Council (as provided by the Laws of 28th April 1893 and 10th July 1896, the Decrees of 21st July 1897, 31st July 1920 and 23rd July 1922) acts on behalf of the Academic Council in all disputes and disciplinary matters relating to public higher education. The Council consists of the Rector, the dean of each faculty, assisted by two members of his staff (whether or not of professorial status), heads of schools, assisted by an elected member of the teaching staff with no voting rights, and the director of the Observatoire.

The Council takes decisions on the administration of property, welfare services for students, exemptions from fees, dates of holidays, purchases, transfers, exchanges and leases. It accepts grants and legacies, undertakes legal actions, arranges courses and practical work common to several faculties, and determines the general organisation of courses. It has a say in the matter of loans, the acceptance of grants and contingent legacies, the establishment of new courses financed by university funds, the institution and control of university qualifications, regulations governing services common to several faculties (university libraries, etc.). Lastly, it expresses an opinion on the budget and accounts of the university and the separate faculties, the creation of new Chairs, problems submitted to the Council by any of its members, or by the Rector, and prepares a general annual report.

The academic councils(1) were established by the Law of 27th February, 1880, amended by the Law of 20th January, 1954, and meet twice a year. They exercise administrative functions, make recommendations on the administration of schools and colleges,

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1) The composition of the academic councils is as follows: the Rector, the inspectors-general, the deans, one professor from each faculty or higher college of arts and humanities or science, two qualified science teachers (agrégés or doctors) elected on a list vote by the teaching staff of all lycées in the Académie, and two qualified teachers of arts subjects, two holders of teaching certificates or licences, and two members chosen by the Minister from the general or municipal councils.

and produce an annual report on the situation of public, secondary and higher educational establishments. They represent secondary schools in legal disputes, and exercise disciplinary powers over the teaching staff.

In addition to these deliberative authorities, there are a number of advisory bodies.

For instance, the Council of Higher Education has to be consulted on all matters relating to education and ministerial projects. It gives a final ruling on all legal and disciplinary issues referred to the academic and university councils.

The Advisory Committee on Universities (Government Order of 2nd November 1945, Decrees of 19th December 1945, 23rd February 1950, 19th March 1958, 10th July 1962 and 30th October 1963) expresses an opinion on all questions relating to staff, school organisation, study programmes, university degrees and diplomas, raised by the Minister or referred back by the Higher National Council for Education. The Committee also takes decisions on changes and promotions in the university teaching staffs, who are graded by categories [Professeur chargé de cours (senior lecturer), Maître de conférence (lecturer), Maître assistants (assistant lecturer) and assistants]: it proposes candidates for professorial chairs, and makes recommendations for staff changes, promotions, transfers, nominations of associate professors (Professeur sans chaire), and other professional staff appointed for their personal qualifications and standing(1).

The Committee has five divisions corresponding to the five faculties. Each division, presided over by the Director of Higher Education, consists of a Bureau (including the Director of the National Centre for Scientific Research, the dean of the Paris faculty and one co-opted dean), and a number of sections. Each section or subsection consists of a number of titular professors, heads of faculties, elected by their colleagues, and other titular professors nominated by the Minister (the number nominated varying with the number elected), together with other staff members (a number being fixed for each section), including associate professors, agrégés, lecturers chosen by their faculty colleagues and assistant lecturers elected in the same way but attending only to discuss matters affecting staff of their own grade.

Under a Decree of 16th January, 1962, five inter-academic commissions of the advisory committee were established, plus one special commission for Paris, to deal with the advancement of assistant science staff. The commissions are headed by the Chairman of the Advisory Committee on universities and consist of members elected or nominated from the science divisions of the advisory committee on universities of each academy concerned, deans of faculties, one professor from each faculty, elected by all its members, and five assistants elected by their colleagues. The organisation and functioning of the commissions are supervised by the rectors, and promotions are decided, on the proposal of the competent inter-academic commission, by the rector of the academy concerned. The elected members of the advisory committee on universities serve a four-year term of office. The committee is convened by the Minister, and each division holds one plenary meeting a year. It also meets three times, in February, June and November, to consider staff promotions(2).

The nomination procedure differs according to the category of staff. Agrégés and lecturers take part in all the deliberations, but have not the right to vote on appointments to the three professorial categories.

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1) Maîtres de conférence are still appointed by the Minister.

2) The February meeting deals with associate professors and professors outside the normal categories, the June and November meetings with assistant lecturers, directors of studies and lecturers.

Joint Technical Committees

Since the Law of 19th October 1946 and the Decree of 14th February 1959 came into force, each administration or service has had one or more joint technical committees.

The Joint Technical Committee of the Department of Higher Education established by Government Order of 13th November 1947 was not reconstituted under the Decree of 14th February, 1959. It has, in fact, never functioned, and the term of office of its appointed members has expired. It was to have investigated the administration and organisation of higher education, changes needed in methods of work, etc.

Joint Administrative Commission

Assistants, assistant lecturers and teachers seconded from secondary education (agrégés or diploma-holders) are promoted through the Joint Administrative commission. The candidates' marks are forwarded to the Commission, one for teaching and one for administration. The Rector calculates the arithmetic mean of the academy ratings, and the administration the national mean. The commission then determines the final administrative rating, taking account of the difference between the two.

Annex XVI

OUTLINE OF ADMINISTRATIVE CHANNELS THROUGH WHICH PROJECTS FOR FINANCING SCHOOL AND UNIVERSITY ESTABLISHMENTS MUST PASS

The successive administrative phases through which a project passes vary appreciably according to whether the relevant local authority is to commission the work or not.

It always commissions it for projects concerning buildings for primary education; sometimes, should it so decide, for those concerning secondary education, but never for university buildings, which are a state undertaking.

The following tables give an outline of the various steps involved.

1. PRIMARY

STEP	AUTHORITY
A Drawing up the programme	The mayor and the inspector of primary schools, the academic region inspector.
B Approval of the programme	The rector, after obtaining the opinion of the academic region Commission for the school map.
C Informing the local authority	The prefect
D Choice of architect	The mayor
E Approval of the architect	The prefect
F Preparing the block plan and preliminary project	The architect
G Consideration of the block plan and preliminary project	School Buildings Committee for the département
H Approval of the block plan, followed by the preliminary project	The prefect, or the Technical Supervisory Service on his behalf
I Order for government financing	The prefect, out of overall appropriations made available to him by the Ministry of Education
J Preparing the detailed plans and specifications for carrying out the work	The architect
K Awarding contracts	The mayor as the party commissioning the work
L Authorising payment of the government grant	The prefect (the payments are made in stages against interim certificates issued by the Supervisory Service)
M Authorising payment of the cost	The mayor

2. SECONDARY

STEPS	AUTHORITIES
A Filling up the "description of scheme" form showing: number of pupils to be enrolled; administrative organisation of the establishment; and, for schemes not falling within a standard programme, a "technical" form showing the nature and surface measurements of "working" areas (excluding passages, stairways and the like).	Relevant directorate of the Ministry of Education, on a proposal from the academic region authorities.
B Consideration of "description" forms with a view to final approval.	Ministerial Co-ordinating Committee for Secondary Education.
C Countersigning and transmission of "description" forms to the Directorate for School Investment.	Planning Service for Schools and Universities.
D Notification to authorities of the region and département.	Ministry of Education (Investment Directorate).
The local authorities who are responsible for building the school may, by agreement, allow the state to commission the work. This is the case dealt with in the present Table; when this is not done, the various stages are similar to those for primary school building.	
E Preparing a file dealing with acquisition of the land, for ministerial approval.	Prefecture.
F Approval and financing of land acquisition.	Investment Directorate of the Ministry of Education.
G Choice of architect.	Investment Directorate of the Ministry of Education.
H Contract between the state and the architect.	The prefect.
I Drawing up the block plan.	The architect.
J Consideration and checking of the block plan from the education viewpoint.	Inspector-general of school organisation.
K Consideration of the block plan from the technical viewpoint.	School Buildings Committee for the Département and, for amounts over Frs.2,500,000, French General Council for Buildings.
L Preparation of the preliminary project.	The architect.
M Consideration and checking of the preliminary project from the education viewpoint (unless the building is a standard one).	Inspector-general of School Organisation.
N Consideration of the preliminary project from the technical viewpoint.	School Buildings Committee for the Département, and, French General Council for Buildings if the cost of the scheme exceeds Frs.10,000,000.
O Approval and order for financing.	The prefect, up to Frs.250,000; the Minister above that figure.
P Implementation: 1. Conventional type buildings:	
- preparing the documentation for carrying out the work;	- the architect (under the supervision of the service in charge of building, and the staff responsible for contracts);
- awarding the contracts;	- service in charge of building;
- supervision of contracts exceeding Frs.2,000,000, and Frs.800,000 (by discretionary tender or private treaty).	- Advisory Commission on Contracts of the Ministry of Education.
2. Industrialised buildings:	
- preparation of the standard documents;	- Investment Directorate of the Ministry of Education;
- invitations at national level to building firms to submit tenders;	- Investment Directorate of the Ministry of Education;
- prior checking of standard documents and results of the discretionary call for tenders;	- Advisory Commission on Contracts of the Ministry of Education;
- award of contracts.	- staff responsible for contracts.

3. HIGHER EDUCATION

As regards the building of establishments for higher education and related studies, the procedure is similar to that adopted for secondary establishments, subject to the following:

- The Committee mentioned under B is the Co-ordinating Committee for Higher Education or the Co-ordinating Committee for Administrative Buildings.
- The file dealing with acquisition of the land (Item E) is prepared by the Rector.
- The contract between the state and the architect (Item H) is signed by the Rector.
- The verifications provided for under J and N are carried out by the French General Council for Buildings for schemes of over Frs.1,000,000; below that figure the Rector, assisted by the service in charge of building, has power to deal with the matter.
- The orders for financing (Item O) are always issued by the Minister.

Annex XVII

CHRONOLOGICAL TABLE FOR THE VARIOUS REFORMS IN EDUCATION BY TYPE, IN GUIDANCE AND IN TEACHER TRAINING

PRIMARY EDUCATION

1945 - Order of 3rd March: abolition of elementary classes in lycées and collèges, effective in the 1960's.

1947 - Instruction of 24th July: the upper class in primary schools is converted into terminal classes.

1950 - Initial experiments with half-time classes in general education and sports (Ecole de Vanves); then extended to the Paris region.

- Important development of nursery schools because of their social and educational roles.

1953 - First ski classes (Ecole de Vanves).

1957 - Order of 1st August: abolition of examination for entrance into 6e class created in 1933.

- Act of 14th November: creation of experimental schools and classes - Freinet, Vence, etc.

1959 - Order of 6th January: compulsory school-leaving age raised to 16 years as from 1967.

- Introduction of modern mathematics.

1968 - Act of 28th February: Creation of the Commission de rénovation pédagogique de l'enseignement primaire.

1969 - Generalisation of "tiers-temps" for education and sports.

- Introduction of a marking system at three levels.

SECONDARY EDUCATION

1945 - Order of 28th January: establishment of free secondary education abolished during the war.

- Circular of 20th August: defines the "classes nouvelles" which will continue until 1952, and afterwards will be abolished because of the pressure of numbers. These classes of a maximum of 25 pupils exist in the first four years of secondary education with a view to increasing intake into this type of education.

- Integration of upper primary education into secondary education; upper primary schools (Law of 15th August, 1941) converted to collèges, then to lycées modernes. Effective in 1945.

- Decree of 2nd May: Introduction of administration councils for the lycées. They include a representative of the Parents' Association, but no pupils' representative.

1952 - Creation of "pilot classes" in "classique" and "moderne" lycées where importance is attached to "méthodes actives".

1959 - Order of 6th January: compulsory school-leaving age raised to 16 years as from 1967.

- Decree of 6th January: creation of a two-year observation cycle in lycées and CEG's (former "cours complémentaires").

- Decree of 6th January: creation of adaptation classes in the 4ème of lycées.

1960 - Experiments with "horaires amenagés" in the two-year observation cycle.

- Organisation of transport for schoolchildren by agreed routes (15 kilometres radius, 1 hour's journey).

1961 - Introduction of half-time classes in education and sports. Extension to 35 divisions (classes) in 1962.

1963 - Decree of 3rd August: creation of Collèges d'enseignement secondaire (CES) and a four-year guidance cycle in multidisciplinary establishments. Introduction of short second cycles.

- Circular of 3rd May: school map for first cycle.

1964 - Definition of curricula in CES's, CEG's and first cycles in lycées.

1965 - Circular of 5th January: school map for second cycle.

- Act of 10th June: reorganisation of long secondary education and of the baccalauréat in conjunction with the reform of higher education (five sections).

1969 - Removal of divisions of the first cycle in the 6ème and 5ème.

- Technology compulsory in first-cycle general education.

- Beginning of standardisation of the first year in long secondary education.

- Introduction of a marking system at five levels.

- Establishment of four-part administration councils in lycées with representatives of the students and a strong representation of students and parents. The "conseil de classe" becomes the "conseil de division" and includes two student delegates.
- Introduction into lycées of socio-educational centres for pupils.

THE BACCALAUREAT

1959 - Abolition of the oral examination but retention of the two-part examination taken over two years. Abolition of the September session. Orals for those whose average is between 7 and 10 out of 20.

1964 - Growth in the importance attributed to the school file.

1965 - One examination in two sessions comprising written examinations and an oral for some fields of study. Transitional period between 1965 and 1968.

1969 - Examination reduced to written tests for those who have an average of 12 out of 20. Oral examination for those with an average between 8 and 12 out of 20.
- French examinations taken at the end of the "première" class.

TECHNICAL EDUCATION

1949 - Act of 22nd January: Creation of brevets d'enseignement professionel ("agents techniques") requiring three or four years of study in technical secondary schools and lycées. These certificates were neither sufficiently theoretical nor practical and were abolished by the Law of 3rd August 1963 (last graduates were in the year 1967).

- Law of 21st February: Organisation of apprentice centres to replace centres of vocational training established in 1939 and 1940: a Certificat d'aptitude professionnelle was awarded after three years. Creation of four ENNA(1) to train teachers.

1952 - Introduction of training for advanced technicians. period of specialisation after the Brevet de technicien which since 1903 has been awarded by Ecoles nationales professionnelles and technical lycées and collèges; studies lasted six years - 5ème to terminal classes - with a possibility of admission in the 3ème or 2ème.

1953 - Act of 21st April: creation of administration councils in CET's.

1957 - Brevets de techniciens supérieurs to be prepared in two years.

1961 - Act of 5th May: creation of the Diplôme d'études supérieures techniques (propédeutique, a certificat de licence, a certificat de technologie and nine months' practical training). This was abolished when the IUT's were created.

1962 - The Brevet de technicien supérieur requiring two years in technical lycées after three years' long general or technical education. Gradual disappearance with the extension of the IUT's.

1963 - Act of 3rd August: organisation of the second short cycle. Abolition of Brevets professionels. The new Brevets d'enseignement professionnel which replace the former Certificats d'aptitude professionnelle are earned in two years instead of three because of the raising of the school-leaving age. Introduction of a one-year training course (Certificat d'aptitude professionnelle).

1966 - Act of 7th January: creation of the IUT's (Instituts universitaires de technologie). Two-year training for higher technicians in secondary and tertiary sectors. Organisation of pupils' progression in higher education.

- Law of 3rd December: Guidelines and Syllabus Act on Vocational Training. Creation of sections of vocational education and the possibility of studying for a certificat d'aptitude professionnelle under a work contract.

1968 - Act of 20th November: organisation of new "baccalauréats de techniciens" in conjunction with the IUT's.

1969 - Second short cycle redefined with four distinct courses. Creation of pre-professional classes in the second cycle which will lead to a one-year training course.

- Reduction of material to be covered for the baccalauréat de technicien.

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1) "Ecole Normale Nationale d'Apprentissage".

HIGHER EDUCATION

1945 - Order of 2nd November: creation of the university consultative committee (for staff promotion). It is divided into 5 sections corresponding to the order of the faculties.

1947 - Creation of ENSI (Ecoles nationales supérieures d'ingénieurs) attached to faculties.

- Creation of the propédeutiques in the faculties of science.

1948 - Creation of the propédeutiques in the humanities faculties.

1954 - Decree of 27th March: the degree in law is to be studied during a four-year period, divided into two study cycles. The second cycle is relatively specialised, with four options (private, public, political science and political economy). Practical work is compulsory.

- Creation of a third-cycle course in science faculties: Diplôme d'études approfondies.

1955 - Order of 27th November: reorganisation of curricula in preparatory classes of the Grandes Ecoles, spread over two years.

1957 - Creation of INSA (Instituts nationaux de sciences appliquées) type of Ecole d'ingénieur attached to faculties. Admission based on assessment of dossier.

1958 - Act of 15th April: introduction of third cycle in humanities faculties.

- Order of 30th December: reorganisation of medical studies lasting until 1961-62; changes in practical training complementarity of medical careers, creation of university hospital centres and organisation of research and teaching in hospitals.

1959 - Decree of 15th June: reorganisation of Doctorat d'Etat in law and economics. Introduction of a one-year course for the Diplôme d'études supérieures, the examination becoming more demanding.

1960 - Act of 6th August: creation of the economics degree (Licence ès-sciences économique).

- Creation of a study and research cycle in human biology in the science faculties.

1962 - Reform of studies in pharmacy.

1963 - Decree of 24th August: creation of the more scientific CPEM (Certificat préparatoire aux études médicales) in science faculties to replace the former PCB (physics, chemistry, biology).

1965 - Decree of 22nd September: reform of studies in dentistry; (followed by Decree of 9th June, 1966, establishing a third-cycle doctorate in dentistry and the Decree of 20th July, 1967, aligning the study of fundamental disciplines in chemistry to that in medical studies).

1966 - Organisation of higher studies in humanities and science into cycles.

- Decree of 7th January: creation of the IUT's.

- The *Direction à l'enseignement supérieur* henceforth to be called *Direction des enseignements supérieurs*
- Order of 11th July: new means for changing from one type of higher education to another.

1967 - September: generalisation of the *Diplôme d'études approfondies* in third cycle in humanities faculties.

1968 - Law of 12th November: Guidelines Act on Higher Education.

1969 - Orders of 13th February and 19th June: temporary organisation of examinations.
- Development of means for changing from one type of higher education to another.
- Circular of 10th April: indicative reorganisation of the first cycle in the humanities faculties into four sections instead of eight (humanities; modern languages; history and geography; philosphy and social sciences).
- Reorganisation of theses for humanities and sciences.
- Decree of 11th May: reorganisation of the universities'consultative committee into 47 sections.
- Decree of 14th June: financial reorganisation of universities - autonomy in teaching for the faculties of law.
- Decree of 17th November: relaxation of the conditions for appointment; teachers are appointed where they will teach and no longer in their faculty of study.

1970 - Orders of 30th July: reform of the organisation of medical studies.

TEACHER TRAINING

1949 - Act of 21st February: creation of four Ecoles normales nationales d'apprentissage for the training of teachers for technical education.

1956 - Decree of 1st April: transformation of the CAEC (Certificat d'aptitude à enseigner dans les collèges) into the CAPES (Certificat d'aptitude au professorat des enseignements de second degré): organization of a one-year practical training period in regional teaching centres.

1957 - Decree of 27th February: creation of institutes for training secondary teachers.

1960 - Creation of a Certificat d'aptitude pédagogique in CEG's.

1969 - Primary teacher training is increased from one to two years.

- Theoretical training for CEG teachers is raised from one to two years, to which is added a one-year occupational training period.

GUIDANCE

1956 - Decree of 14th November: organisation of occupational guidance.

1959 - Decree of 6th January: organisation of centres for school and occupational guidance.

1960 - Order of 2nd June: machinery for school and occupational guidance in the two-year guidance cycle.

1963 - Decree of 3rd August: adaptation of the guidance machinery to the four-year guidance cycle.

1965 - Decree of 10th June: definition of pupils' direction in the second long cycle.

1966 - Decree of 23rd June: definition of students' direction for the first two cycles in higher education.

1970 - Decree of 20th March: creation of ONISEP (Office National d'Information sur les enseignements et les professions).

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